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IN THE KYRGYZ REPUBLIC

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REPORT – 2002

«Human Development in Mountain Regions of Kyrgyzstan»

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Abbreviations

AIB	Asian Development Bank
AK	Aiyl Kenesh
AO	Aiyl Okmotu
ASHG	Association of Self-Help Groups
BGMS	Bishkek Global Mountain Summit
CDF	Comprehensive Development Framework
CIS	Commonwealth of Independent States
EMP	Essential Medical Preparations
FGP	Family Group Practices
FINCA	Foundation for International Community Assistance
GEM	Gender Empowerment Index
GDI	Gender Development Index
GDP	Gross Domestic Product
GIP	Government Investment Programs of the Kyrgyz Republic
HDI	Human Development Index
HPI	Human Poverty Index
JK KR	Jogorku Kenesh of the Kyrgyz Republic
KAFC	Kyrgyz Agricultural Financial Corporation
KR	Kyrgyz Republic (Kyrgyzstan)
LA JK	Legislative Assembly of Jogorku Kenesh of Kyrgyz Republic
LSG	Local Self-Governance
MCB	Minimum Consumer Budget
NGO	Non-Governmental Organization
NHDR	National Human Development Report
MM	Mass Media
NPRS	National Poverty Reduction Strategy
NSAC	National Strategy and Action Plan for the Sustainable Development of Mountain Regions
PAP	Programme on Capacity Building for Poverty Alleviation
PPP	Purchasing Power Parity
SHG	Self-Help Groups

TACIS	Technical Assistance to Commonwealth of Independent States
UN	United Nations
UNDP	United Nations Development Programme
WB	World Bank

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Glossary

Human Development - the process of expanding human potential, which includes three essential elements: health and longevity, knowledge, and access to the resources necessary to sustain an acceptable level of life. Additionally the human development includes other components essential for a person's well-being: participation in the government process, security, stability and human rights guarantees - all that is needed for a creative and fulfilling life, and for maintaining human dignity.

Human Development Index (HDI) (or Human Potential Development Index -HPDI) - the HDI measures the average achievements within a country, taking into account the three basic tenets of human development: a long and healthy life, knowledge, and a decent standard of living. As a composite index the HDI thus contains three variables: life expectancy at birth, educational attainment (adult literacy and the combined gross primary, secondary and tertiary enrolment ratio) and GDP per capita (PPP US\$). Income level is included in the HDI to reflect the standard of living and as a measure of potential in all other areas that are not taken into account by the other two parameters.

Gender (-related) Development Index (GDI) - The GDI measures the same achievements in the same way and using the same variables as the HDI does, but also takes into account inequality in achievement between women and men. The greater the gender disparity in basic human development, the lower is a country's GDI compared with its HDI. The GDI is simply the HDI adjusted to take into account gender inequality.

Gender Empowerment Measurement (GEM) - The GEM reflects the extent to which women are able to actively participate in economic and political life. It measures gender inequality in key areas of economic and political participation and in the decision-making process. The GEM focuses on women's opportunities in the economic and political arenas and thus differs from the GDI that is a more general indicator of gender inequality.

Human Poverty Index (HPI) - The HPI measures wide-scale deprivations that impact negatively upon human development. Thus while the HDI measures the overall progress in a country in achieving human development, the HPI reflects the distribution and extent of existing deprivations. The HPI is assessed separately for developing countries (HPI-1) and for industrialized countries (HPI-2). This separate index has been devised for industrialized countries due to the fact that the nature of human deprivation varies according to the social and economic conditions of a community.

HPI-1 Using the HPI-1 it is possible to measure the scale of deprivation of the various basic dimensions of human development. In calculating the index the following variables are used:

- The percentage of the population not achieving 40 years of age
- The rate of adult illiteracy
- The proportion of the population without access to medical care and safe drinking water, and the percentage of children who are underweight.

HPI-2 This index basically measures the scale of deprivation according to the same three criteria as HPI-1, but with the additional element of social isolation. In its calculation the following variables are used:

- The percentage of the population not achieving 60 years of age
- The percentage of the population without functional reading and writing skills
- The percentage of the population living on a very low income (that is those whose income after tax comes to less than 50 percent of that of the average household)
- The proportion of the population which has been unemployed for a long time (12 months or more).

Administration subjects - communities that are represented by different organizations and unions and desire the implementation of administrative functions on different levels. It is assumed that the subjects of an administration will have a clear understanding about the goals and objectives of their own activities, and will also be ready to take on the responsibility for the implementation of, and also have the ability to provide the resources for, these activities.

Acuteness of poverty - shows the deviation in income of the poor sectors of population from the poverty line.

Aiyi Bashchi - the head of a village

Aiyl Kenesh (council) – a representative body within local communities that is elected by the population residing in the respective area, by open and secret vote, for five-year terms.

Aiyl Okmotu (village authority) – an executive and administrative body under the aiyl (village) or community kenesh that is elected by the population residing in the respective area, by open and secret vote, for five-year terms.

Bio-climate – a set of natural and climatic factors that takes into account the influence of these very factors on the working capacity and life activity of a person in general.

Budget Policy – a mechanism of arrangement and usage of state financial resources (funds) and its reallocation among regions.

City Uprava – local self-government body at a city level under rayon.

Decentralization of power – represents the transition from a single, and typically vertical, structure of administration to a system of government that is multi-polar, responding to the requirements of different communities as well as to the interests of the center (regional and municipal levels).

Demographic composition of population – sex and age groups ratio.

Demographic load factors – index characterizing number of dependants falling on one able-bodied person.

Depopulation – (Latin – depopulari, -atus – to swarm over a country) decrease in population.

Difficulty of access – criteria defining the quality of roads, seasonal passes, danger of avalanches, rock falls, complexity of passes (height, steepness of a slope), and location of objects in relation to a valley.

Economically active population – that part of the able-bodied population ready and able to work, including those younger and older than normal working age.

Economic way – the arrangement of economic activity that has norms and standards of economic management that have been established as a result of cultural and historical conditions (factors).

Focus Group – a tool used in sociological research allowing for additional qualitative analysis of quantitative indicators. A focus group is a small, but representative, group of eight to twelve people who are asked several questions on a particular topic. Using these groups makes it possible not only to ascertain the opinions of participants on a particular issue, but also to collect detailed information about the reasoning behind their opinions that is not normally possible within the framework of traditional sociological surveys.

Gross Domestic Product (GDP) – the total of all commodities and service produced by all economic entities within a territory over a specific period of time.

Infrastructure – set of constructions, buildings, systems and services, necessary for functioning process of commodity manufacturing and providing everyday life of population. Development level of infrastructure shows the availability of amenities within an area.

Investments – (Latin – investire, -itum – to clothe) long-run investment of capital within a country or abroad into enterprises within various sectors, business projects, socio- and economic programs, innovative projects with the intention of gaining additional revenue (profit) or social effect. There are several types of investments: governmental derived from state budget funds, from state financial sources; foreign based by foreign investors, other governments, foreign banks, companies, entrepreneurs; private derived from private funds, corporate bodies and organizations, citizens, including either their own or brought-in funds.

Investment policy – part of the economic policy of a state aimed at attracting investment and regulating investment activities within the country, and providing attainment of priorities with respect to the industrial policy of the government. It also plays a very important role in overcoming economic crises and building sustainable economic growth. Investment policy is based on stimulating the form of direct investment required and the creation of new joint-ventures, either partially or completely owned by foreign physical or legal entities, and can be directed towards the more well-known global investors (large international banks, eminent financial groups etc); the achievement of attracting investment on the basis that gives a choice of the best and the most judicious options by providing tax benefits for the inflow of investment into priority areas.

Local community – the population permanently resident within the bounds of a given aiyl, (village) community or a city council. It is united by common interest and resolves issues of local importance through its representative and other bodies. Rayons and oblasts (districts) are territorial associations of local communities.

Local Self-Governance (LSG) – refers to the organizational structure of a local community taking into account their level of independence, initiative and responsibility within the local decision-making process.

Migrant – a person who takes part in the process of migration

Migration growth (outflow) – is the quantitative difference between the number of people who have arrived in a given area during a specific period of time and the corresponding number of those who have left. Migration inflow is positive (where the number of newcomers is greater than the number of those who left), and outflow is negative (where the number of newcomers is less than the number of those who left). The latter case is a migration outflow.

Migration balance - is an indicator showing the result of a population's migration within a certain territory (the difference between the number of newcomers and those who have left). A negative value denotes an outflow and a positive an inflow.

Migration of population - the movement of people (migrants) through the administrative borders of territories (countries, oblasts, rayons etc) due to a change of residency (permanent), or for a limited period of time (temporary), or coming and going (pendulum migration).

General mortality rate - is an indicator showing rate of deaths within a population. It is a ratio of the overall number of people who died during a year against the average annual population (measured per 1,000s of the population).

General natural growth rate - the difference between the overall birth-rate and the overall death rate. The birth rate is an indicator showing the number of children being born. It shows the number of live-births as a ratio of the average annual population (measured per 1,000s of the population).

Natural Population Growth - the difference between live births and deaths during a specific period. The Index may have positive value - when the number of live births exceeds the number of deaths, or negative value - when decrease in the population occurs.

Orography - scientific study of the mountains - characteristics of an area based on the relative positions of mountain ranges, elevations, river valleys, hollows and other relief forms.

Poverty Depth - indicates the asset deficit necessary for a household to overcome a state of poverty.

Remoteness - criterion that takes into account the feasibility of communication between rayon, oblast and republican centers using different methods of transportation.

Remigration - is the return of people to their place of permanent residence.

Self-employed population - people who provide work for themselves independently and live on the profits from producing goods and services through their own enterprise, business or farm unit.

Sustainable development - economic development within the limits of the ecological capacities of the planet that is safe for the environment whilst "satisfying the needs of the present without endangering the abilities of future generations to satisfy their needs"

Transparency - no secrecy; access to information.

Introduction

Human Development Reports have only become part of global development research relatively recently, since the early 1990s. Today it is difficult to imagine the work of many NGO and international organizations, and governmental and non-governmental bodies without these documents. The concept of human development that has been promoted throughout the international community by the UNDP is the basis of these reports. Within this concept the development processes are viewed as being the broadening of opportunities for each and every person to achieve self-fulfillment. By using this approach to the development processes it means that they are given due consideration through more than just economic indicators. The most important criteria of human development are the ability receive education and to live a long and healthy life. In taking into account these, and some other important factors, specific indicators have been developed that make human development processes measurable. Globally the quantitative and qualitative characteristics of human development are annually presented in a report on human potential development. Each report deals with a specific theme, but the idea of human development centered around the person has been preserved throughout all the reports.

Along with annual global reports on human development potential, National Human Development Reports (NHDR) have started to be published. Such reports have been published with UN support for the last eight years.

The concept behind these national reports is to produce an efficient tool aimed at the enhancement and promotion of national strategy, with respect to human development potential,

through a topical analytical document. The issues considered by these reports are directly related to the processes that are already under way in the country. This makes it possible to assess trends and attitudes within the area of human development on a national as well as sub-regional level.

NHDR-2002 covers the issues of human development processes in the mountain regions of Kyrgyzstan. Last year's Report attempted to consider regional aspects of poverty in the context of high mountain versus flat regions). That report contains indices characterizing imbalances in human development potential for residents of various mountain areas, along with a comprehensive analysis of living conditions and standards in the mountains, and the resource potential and possibilities available for the development of mountain areas.

The theme of this year's report can be explained by the significance of mountain- related issues for Kyrgyzstan and is in full compliance with the UN decision to declare 2002 the International Year of Mountains. Kyrgyzstan has a rare opportunity to attract the world's attention and to change attitudes toward the problems of mountains that exist within the Republic whilst creating conditions for the identification and implementation of a policy of sustainable development for mountain areas – a policy of economic partnership, social welfare achievement and the recognition of the fact that mountain areas are significant. This report is not only confirmation of the topical nature of problems characteristic to the Republic's mountain areas and the focus on all aspects of their development, it also is a demonstration of the value of the concept of human development for Kyrgyzstan.

This Report reflects the results of research into the following areas:

- *study of international and national aspects of mountain area development;*
- *evaluation of the current legislative framework aimed at providing support to and the development of mountain areas;*
- *comparative analyses of territorial differences (altitude and bio-climatic characteristics, remoteness and accessibility, infrastructure development, demographic and migration processes, etc.);*
- *evaluation of human potential and differences in development nationwide, particularly in mountain areas;*
- *definition of the range of economic, social and socio-political problems, characterizing of some mountain settlements and mountain areas as a whole;*
- *analysis of the problems of government decentralization, mountain area management and the social mobilization of the population.*

- *The usual statistical tools and standard indices of human potential development are not the only method of considering the problems of high-mountain village development. Within the framework of preparing such this NHDR, a pilot comprehensive sociological survey of high-mountain villages, using quantitative and qualitative methods (public opinion polls, interviews, focus groups, processing statistical data, etc.) has been undertaken for the first time. In each village, 10% of the total number of household heads were interviewed. The size of this selected mix comprised 432 households. About 40 individual interviews were undertaken and 25 focus groups were conducted.*

For the first time human development processes are considered through the lens of comparative analysis of different altitude zones (low-, mid-, and high-mountain) that have been identified in

accordance with the vertical zoning of mountain areas¹ and bio-climatic characteristics of populated areas (Attachment I). As soon as each zone includes rayons belonging to different oblasts, this approach made it possible to define common characteristics of their development, irrespective of the Republic's administrative division. This zonal division laid the foundation for the sociological survey selection and the calculation of human potential development indicators (HDI, GDI, GEI, and HPI-1), as well as for the qualitative analysis of the human development processes.

The analysis of the current legislative framework along with the data of the sociological survey undertaken in high-mountain villages complemented the general picture of human development. The report not only reflects the views of the report's authors and experts, as well as the points of view, assessments and ideas of officials, representatives of economic entities and NGOs, but it also takes into account the views of the mountain residents that participated in the survey

The report clearly shows the universality of the human development concept: the analysis conducted on the basis of this concept allows one to combine different approaches to the development issue, including those directly aimed at sustainable development of mountain areas.

This report is the first attempt to resolve the problems in general terms that can complement the analytical research that is under way in Kyrgyzstan. The ideas proposed in this report can be further developed to serve as a starting point for more detailed research. The NHDR presentation at the Bishkek global mountain summit will attract the world's attention to those aspects of human development that are connected with the Republic's mountain areas development and help solve many of the current problems in this area.

Some provisions in this report are articulated in a rather unpleasant manner, but to our understanding the problems of mountain areas of Kyrgyzstan are urgent. This starting point for discussions may help find the solution that will establish equilibrium between contradictory interests. The analysis of events aimed at providing support to mountain villages gives rise to new tasks that could not be envisaged some time ago. Moreover, today's political context ensures quite favorable conditions for vocalizing a new policy in relation to the reform local governance in mountain areas.

¹ Classification of USSR Academy of Geography, taking into account climate on a continental basis

Chapter I. International and national aspects of mountain areas development: problems and solutions.

The idea of human development: mountain communities on the agenda.

The notion “human development” envisages a process of expanding the range of opportunities for each person. This process can be measured, and it will allow the comparison of large areas within a country, as well as those of different countries. It is of vital importance for Kyrgyzstan because this country, despite being small in size, contains regions with a wide variety of living conditions. This diversity cannot but create unevenness in the human development processes.

The main concept of the human development process is that wellbeing should be evaluated in terms of the opportunity given to people to live the life that they consider a satisfactory one, rather than measuring in terms of income per capita. Income should not be considered as the ultimate goal, but rather as a means widening a person’s choice in such areas as health care, education and economic and public activity. Three key issues are topical at any stage of human development: to live a long and healthy life, to acquire knowledge, and to have access to resources required to lead a satisfactory standard of life. Any solution to the problems determines a way of life and perspectives to resolve other vital issues.

Box 1.1

The concept of human development suggests four methods that will help achieve the two goals of economic growth and human development:

- *to increase investments into education, health care and professional training, and to contribute to achievement of man’s capacity to participate in the production and distribution of goods;*
- *to fairly distribute income and wealth;*
- *to balance social expenditures so as to strengthen the economic base of the social sphere;*
- *to increase the opportunities of people to allow them choice in political, social and economic areas, whilst paying special attention to those members of the population whose opportunities are limited.*

Human Development: new dimension of socio-economic progress.

M.,2000.- pp.41-51

Mountain regions are of vital importance to the Republic. Mountains are our country’s pride, its major distinctive feature, and one

of the most important development resources. But the level of life in the mountains significantly differs from that in the plains: many things that are part of a valley inhabitants’ daily life are not available to mountain residents. To decrease the imbalance between high-mountain regions of the Republic and low-mountain areas is a very important task.

The main parameters that one can use to evaluate the level of human development within an area are health, education and the income of the population. In mountain regions the situation is more complicated than in other regions. This is common to other countries with mountain regions. This is why the initiative of Kyrgyzstan to declare and pursue the International Year of Mountains has been recognized internationally. Thus attitudes towards preserving natural

resources and the search for new resources for the development of mountain areas is being reconsidered everywhere

The future of economic growth of mountain regions should correspond to the efforts being undertaken to preserve their biodiversity and, most importantly, their natural resources, and, where possible, to contribute to their expansion. Those aspects of the development of mountain regions that are directly connected with human potential development should become decisive ones. In relation to mountain areas these aspects require additional attention because possibilities that would seem natural in any other place are limited in the mountains due to objective reasons. These limitations need to be addressed and taken into account when defining the perspectives of mountain region development. However, material obstacles that exist today in the area of expanding the development opportunities of people living in the mountains should not be confused with complications and problems that could be overcome, and attention and effort should be focused on their elimination.

The main material obstacles hindering the development mountain regions are, beyond any doubt, their inaccessibility and isolation. Whereas the modern level of infrastructure in developed countries would have a significant and positive influence on living conditions, in Kyrgyzstan, as well as in many other states, this factor remains critical and unresolved.

Another important material factor that affects life in the mountains is the bio-climatic conditions of mountain regions. Its influence can be considerably reduced by the use of advanced technologies, but only countries with highly developed economies can afford it.

The key problem that slows the development of mountain regions is the fact that “natural resources of the mountains are not used in a sustainable manner for the maximum benefit of the population of Kyrgyzstan”²

Research conducted by the Central Asian Mountain Program (CAMP) in the Kochkor rayon pointed to large deposits of marble, nepheline cynathes, rock salt and numerous other materials that could be used in construction. The volume of medicinal plants is enough to process and store them. Unfortunately the population ignores this opportunity.

*Identification of three representative rayons within the CAMP framework:
Kochkor rayon.- Bishkek, 2002.- p.5*

At the same time, living in mountain regions has some advantages that are not

properly taken into account when analyzing the situation, and thus are not included in to the list of potential resources available to develop mountain regions.

One of the most vital resources of mountain region development should be ancestral experience. However in Kyrgyzstan its use is rather complex because during the rule of the former Soviet Union several generations of people lived under state control and many problems were resolved by the state. Thus there is a need to regain old and accumulate new experience in the organization and management of life in the mountains.

² National Strategy and Action Plan for sustainable development of mountain regions in the Kyrgyz Republic.- Bishkek, 2001. – P.11

The government, local government bodies and NGOs face a difficult task switching to a prudent national policy of mountain region development. It is necessary to create national mountain programs similar to programs in other countries (Switzerland, Austria, Nepal, Pakistan), and to persuade the government and public to apply innovative financial mechanisms and standards of activity that will allow the allocation of resources to and from mountain regions whilst allocating some of the profits created in the mountains for disposal by mountain communities.

Distinctive Features of Mountain Regions Development

Human development processes in mountain regions, viewed as the process of expanding opportunities for each man, have their own special characteristics. This is natural because the extent of such opportunities depends on where a man was born and lived. Despite these differences, the concept of human development is aimed at ensuring a “long, healthy and interesting life” for each man. It does not neglect the diversity and uniqueness of the opportunities that people are trying to implement to achieve it.

Many international documents devoted to the development of mountain areas state that mountains have specific natural environments as well as a specific ways of life and cultural and social organization. Almost every mountain valley has its own everyday life-style, traditions, crafts and its own outlook and views characteristic of the valley residents. Remoteness from political and economic centers contributes to the preservation of long-standing traditions and cultures, and that is why human development opportunities of mountain residents differ from that of valley residents. This conclusion applies to Kyrgyzstan and other mountainous countries.

The specifics of a “mountain” way of life relate to the complicated and difficult conditions of survival when compared to other regions. Due to relatively difficult accessibility, remoteness, and harsh climatic conditions, mountains rarely become centers of economic development. Being located on the periphery of countries and regions, mountains mainly serve as sources of goods and services such as agricultural products, water, electricity and mineral resources that benefit the valleys. Gradually this leads to deterioration of mountain resources and, correspondingly, to the isolation of mountain areas which turns them into centers of poverty, migration, broken social links, and, finally, centers of conflicts.

Live voices

Why do conflicts happen in mountains?

Where do conflicts happen more often? Mostly in the mountains. Small Andorra in the Pyrenean highlands, the Balkans, the Caucasus, Central Asia, the Himalayas, the Ethiopian Plateau, and this list can be enlarged. It is the mountains in every case. Why does it happen? Very simply cause and consequence relations form the foundation: the marginality of mountain areas creates poor management, that, in its turn, gives birth to economic backwardness and correspondingly leads to the growth of crimes, and crimes result in conflicts that are extremely cruel, continuous and unmanageable.

One of the consequences of such difficult

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living conditions is cruelty with which people treat the main source of their survival – the natural resources surrounding them - that ensures any available means are customarily used in the mountains to overcome cold, hunger and lack of essentials. At the same time valleys, to a large extent, now depend and have depended on the natural resources (water, mineral, biological, energy ones, etc.) of mountain regions. Special attention must be paid to the protection and rational use of these resources, and to using these resources for the necessary development of these very mountain areas. Using such an approach the problem of survival ceases to exert a dominating influence on the mountain residents' way of life.

The interdependence of mountain and valley areas is mutual but asymmetrical³. It is closely related not only to the value of the very resources, but also to the ability to keep them under control. Water resources can be a very illustrative example—the sources of drinking water are located in mountain regions, and they have never received any profit from this water being used by valley residents. At the same time for everyday and economic life they need some items that are not produced in the mountains, and these they have to purchase in the valleys, and as a rule, under extremely unfavorable conditions. The specifics of exchange between mountain and valley settlements require additional regulation. The uneven flow of resources results in a significant difference between living conditions in these regions (notably a high level of poverty is widely spread in the mountain regions), a strengthening of the migration processes, and a changing demographic structure of the mountain population.

The quality of life of the population living in the mountains is directly connected to human potential development as well as to sustainable development. Sustainable development is understood as “...a specific approach to the use of resources, that prevents their deterioration and reduction of today's opportunities to choose, protects the interests of the generations to come, and ensures a significant reduction of a huge imbalance in the access to resources. This notion means a new correlation between economic, ecological and socio-cultural components of mountain areas development”⁴

Sustainable development of mountain regions is a policy of development, that ensures equal access to natural resources, enhances the role of local autonomy, increases effectiveness and accessibility of education, improves attitudes to women and children. This is a policy of integration and optimization of socio-cultural, economic and nature protecting components comprising the process of development.

Ives J., Messerly B., editors of “The mountains of the World”.

The concept of sustainability is based on the strategic interaction

on of economic, ecological and social components in achieving the positive development of mountain areas, and the potential for the mountain population to participate in the management, development and rational use of the territory is a very important tool in its realization.

At the UN conference on environment and development (Rio de Janeiro, 1992), due to the importance of issues related to the development of mountain regions, the Agenda for the 21st

³ Shtelreht I., Berg A. Household's Strategy. Polot research in Bazr-Korgon rayon: CAMP report. – Bishkek, 2001

⁴ The Mountains of the World – global priority. – M.: Noosphere, 1999. – P.433

Century included the chapter “Management of Fragile Ecosystems: sustainable development of mountain regions” (Chapter 13). The resolution of the conference draws special attention for leaders of nations, politicians, scientists and experts on mountains to the following provisions:

- the importance of sustainable development of mountain regions on global, regional and national levels;
- the protection of natural resources and measures to reduce acts of **public enemy** (natural disasters);
- the strengthening of the global information network and database on mountain related issues;
- the improvement, planning, implementation and monitoring of mountain regions sustainable development;
- the struggle against poverty;
- the development of sustainable types of activity;
- the improvement of infrastructure and social services;
- discussion at regional and sub-regional conventions on mountains and the development of the General Charter on Mountains

At the Global Summit on Sustainable Development (Johannesburg, 08.26-09.04, 2002) Kyrgyzstan's proposals for establishing the Association of Developing Mountainous Countries to enable it to promote their interests to the world community and to elaborate on ways to repay the external debts of these countries for the purpose of sustainable development were submitted for

*International
Experience in the
Area of*

Mountain Problems Resolution

According to the UN about one tenth of the world population lives in mountain regions despite the fact that the major part of these areas is subject to ecological, economic and social problems. According to the level of development, the integration into both national and world economies, and the methods used to solve these problems, three categories of mountain regions can be recognized⁵:

- *mountain regions of highly developed countries (Switzerland, Austria, France, Italy);*
- *mountain regions of poor countries (Peru, Ecuador, Guatemala, Mexico, Russia, Pakistan, India);*
- *independent countries completely covered with mountains (Bhutan, Nepal, and Andorra).*

The countries in the first category are already implementing comprehensive development programs that ensure support to mountain regions located in unfavorable conditions. The population of these countries is ready to support the special privileges provided to these mountain regions. The European Union has developed wide ranges of programs aimed at supporting the economy of unfavorable regions.

The countries comprising the second category are encountering urgent problems in their mountain regions. Funds for economic support are mainly directed at the development of national centers located in valleys. Because of this there is a danger that the marginalization of mountain regions will be increased. If these regions fail to cope with the existing problems by

⁵ The Mountains of the World – global priority. – P. 443

themselves (through the development of tourism or the use of hydro and other resources) the migration of the population due to unsolved social-economic problems will be inevitable.

The third category includes a few countries with small economies. Their governments provide insignificant assistance to the population of mountain regions either directly or within the framework of international aid. These countries' inability to compete makes them the poorest ones in the world, and they primarily rely on international development agencies.

In economic terms and on the basis of the above classification Kyrgyzstan can be referred to as an intermediary country, i.e. one that is somewhere between the second and third categories.

There is a strong opinion that the prospects for all mountain regions on the planet are not very favorable, excluding some regions in Western Europe and North America. Conversely some people think that sustainable development of mountain regions is feasible, and in order to achieve this goal one should ensure long-term sustainable development within these regions. Scientists and politicians have to work out and implement such decisions. If we fail to implement them, mountain regions may be under threat of the savage exploitation of resources, recession and isolation, that will eventually affect the valley regions relying on resources from the mountains.

An understanding of the situation motivated the signing of different international documents that mitigate the negative tendencies in strengthening territorial inequality, in particular the European Convention on Mountains (1996) that recognizes the inequality between mountain and valley regions. Currently some laws that should contribute to the elimination of this inequality are in effect or are being considered in Germany, France, Great Britain and Norway. The decision to provide subsidies to mountain communities in Switzerland and Austria were made in the post-war years.

Measures on reducing inequality are, as a rule, based on economic mechanisms. They include redistribution of water taxes (especially where mountain areas are used to create the infrastructure for the hydro-energy sector) and deductions from tourism revenues (including payments to enter national parks). Traditional experience and knowledge is often used in the collection of medicinal plants that is carried out in ecologically pure mountain regions and because of this some of the profits generated by large pharmaceutical and cosmetics companies comes back to the mountains.

Programs on eliminating inequality between mountain and valley regions differ from country to country, and even from region to region within one country. Nevertheless, these programs have much in common. Such programs, for example, support dairy production that is the most effective type of farming in high mountain altitudes. In many European countries, farmers involved in milk production in the mountains receive additional quotas exceeding regulated quotas established by the European Union. Different subsidies to milk producers are also widely spread. For example some farms located in the north of Germany (Northern Rhine) are annually given subsidies to the value of 300 to 1,000 DM per hectare in areas that have been declared vital for environment preservation. Other programs are aimed at providing support for the reconstruction and repair of traditional farm and village houses, and they also encourage the preservation of traditional land use and conservation methods.

Local Initiatives in Mountain Areas Development

Switzerland

Local initiatives and local government play a very important role in the development of mountain areas. Development projects of village communities situated in the mountains of Switzerland can serve as a good example. The rural settlements of Urnasch and Scharmserberg have been traditionally supporting local initiatives. In the village of Urnasch some individuals and groups have created private associations to manage a local resort and a museum of local traditions and crafts. In this village there is also a culture club and a village cafe.

Many local initiatives in the village of Scharmserberg are in the area of farming: the creation of the farmers' society and the farmers wives' association (those who sell products manufactured by hand at local markets and to order), and a co-operative society that is planning to build a regional slaughterhouse. These initiatives have brought positive results in terms of communications development and co-operation, increased public awareness, and strengthened local solidarity and identification.

India

In India more than 75% of the population lives in rural areas with close proximity to natural resources. The inhabitants of Bhotiya have been preserving long-standing traditions of using curative herbs for centuries. In 1996, 90% of the inhabitants of five villages in the buffer zone were involved in growing medicinal herbs in their fields. Profits per family amounted to US\$55-75, and in some cases to US\$200-230 per season. Earnings from the sale of medicinal herbs exceed earnings from the sale of traditional crops, and that is why such initiatives are accepted positively from both ecological and socio-economic points of view. Cultivation of curative plants helps local people preserve knowledge on curative herbs and reduces the pressure on high mountain (alpine) forests in terms of ecology.

Mountain peasants' communities in Switzerland have accumulated rich experience on the issues of taxation, land use and economic planning in the mountains. This experience can be useful to other countries because it helps mountain residents not to be completely dependent on subsidies and the implementation of government programs, but be masters of their own fate.

The above experiences allow the submission of two mutually complementary and promising trends in mountain area development policy for discussion⁶:

- *the "root-oriented" policy within the framework of action plans that are worked out and implemented with the help of political tools and means (loans, technology, infrastructure, etc.) These programs should complement local resources (human and biological) as soon as a comprehensive use of all resources is required for sustainable development;*
- *the "macro-oriented" policy based on direct payments to the mountain population for preserving and improving the mountain resources used by mankind. This approach is based on ecological economy with the application of equal rights to all inhabitants of the region. This method may be used provided it encompasses active interstate cooperation, and this is exactly why this method has not been widely utilized so far. However the Alpine Convention that is being implemented in mountainous regions of Europe may serve as an example.*

⁶ The Mountains of the World – global priority. – P. 443

Local initiatives are very important for the effective implementation of both methods with respect to the development of the mountain regions. They are considered to be the most important strategy in implementing internal development by mobilizing the population and contributing to the enhancement of the economy and the strengthening of the social potential of mountain areas.

National and international programs on solving Kyrgyzstan's development problems.

The international movement for the development of mountain areas began in 1992 at the UN conference in Rio de Janeiro that did away with the tag "backyard" attached to the mountains. Having recognized the importance of mountain ecosystems the conference initiated rapid changes in comprehension by and attitude of the world community to mountain areas. As a result much has been done during the last 10 years to promote the idea of sustainable development of mountain areas.

In 1997 in Kyrgyzstan the National Strategy of Sustainable Human Development in the Kyrgyz Republic poverty, information isolation and deterioration of the quality of education in mountain areas were recognized as phenomena that present a national threat and the battle against these phenomena was prioritized.

In 1998 in accordance with a presidential decree, the National Center on developing the mountain regions of the Kyrgyz Republic was established. This center was set up to co-ordinate the efforts of scientific centers, agencies and institutions involved in problem solving related to mountain regions, and to contribute to the implementation of comprehensive and pilot projects to determine the potential (scientific, financial) available to solve these problems, and to undertake interaction with regional and international organizations.

Further to the idea of declaring an International Year of Mountains, the Government of the Kyrgyz Republic approved the National Program on the preparation and conduct of the International Year of Mountains back in 1999. Within the framework of this program a number of actions were undertaken aimed at attracting the public's attention to the problems of mountains:

- *a draft law on mountain areas in the Kyrgyz Republic was prepared;*
- *the list included 258 high mountain villages as targets to be provided with specific economic, technological and information assistance by ministries, large companies, joint stock companies (listed), enterprises, donors and investors;*
- *an international project entitled "Mountain Village" dealing with the construction of a modern model mountain settlement has been formulated and implemented;*
- *the International Institute of Mountains has been established to extend links with institutions working on similar problems in other countries;*
- *with technical and financial support from the Swiss Agency on Development and Cooperation ICIMOD a Central Asian mountain information network (CAMIN), with its main office in Bishkek, has been established for the purpose of providing and co-ordinating information on mountain related problems and activities in Central Asia;*
- *a number of international conferences relating to the strategic problems of Central Asian mountain areas development have been held (Urumchi, 1998; Bishkek 1999)*

The 1999 conference in Bishkek provided a powerful impetus for the implementation of the ADB regional project "Regional Development on Sustainable Development of Mountain Areas in

Central Asia” (2000-2001). Under this project, in close cooperation with the International Institute of Mountains in Kyrgyzstan, Kazakhstan, Tajikistan, Uzbekistan and SUAR (China), national strategies and action plans on the sustainable development of mountain areas were developed (2001), and these have provided the basis for the foundation of the “Regional Strategy and Action Plan on Sustainable Development of Mountain Areas in Central Asia”.

In 2002 the Government approved the National Strategy and Action Plan on sustainable development of mountain areas in Central Asia (NSAP) as the basis for future development. This document provides an analysis and recognition of the problems along with tools for identifying the priority problems and with reasons leading to these problems, and suggests strategies and methods to enable the goals of sustainable development of mountain areas and mountain communities to be achieved. One of the main advantages of this document is its orientation toward local communities, a legislative extension of their title rights and the right to use mountain resources, and to earn profits from them. Stimulation of initiatives, traditional crafts and the introduction of new technologies are recognized as conceptual trends ensuring the goals as defined by the NSAP are achieved.

Different international organizations such as the UN Development Program, UNFAO, UNESCO, the UN Environment Protection, the World Bank, the Mountain Forum, the Swiss Development Cooperation, TACIS, GTZ/AFC “Support to Private Farmers”, the Training and Consulting Program in Osh (know-how for mountain areas), the Agha Khan Development Network, GEF and others provide significant assistance in solving the problems of mountains and sustainable development of mountain areas of Kyrgyzstan.

Switzerland, whose international experience and initiatives in the area of sustainable development was repeatedly referred to within this report, is actively involved in the cooperation with government agencies, NGOs and local communities within the Republic. The multi-year-targeted program aimed at the support and rehabilitation of forests and forestry (Le-Sic program) is an illustrative example.

In Kyrgyzstan, the CAMP program focused on four main goals: identification and support of mountain products; use of natural resources; rural development; political dialog. The program has been efficiently and tenaciously implemented since January 2000. Sustainable use of natural resources is a priority. Moreover consulting assistance is being provided in the areas of energy supply evaluation in mountain regions, the rehabilitation of bridges to ensure the access of the population to high mountain pastures and on the issues of multifunctional use of pastures.

The Central Asian Mountain Program is co-operating with the Dom Gor (House of Mountains) program that set forth the following objectives:

- gathering, exchanging and discussing the experience accumulated by local organizations and communities on the issues of mountain areas development in Central Asia;*
- initiation of a dialog on the development of mountain regions of neighboring countries of Central Asia;*
- creation of a platform to enable the population of mountain regions and the organizations interested in the development of mountain regions to participate in the Bishkek Global Summit;*
- promotion of goods and services of the mountain population.*

In 2002 the North-South program of scientific research (NCCR), which concentrates on the natural resources and ecological issues in the Central Asian region, has been launched.

Human potential development processes are, to a large extent, the result and indicative of a successful reform process in the areas of politics, economy and governance.

The state policy for mountain regions development should be aimed at forming the image of an equal partner within national and regional development strategies. It is possible on two levels:

- *at the international level it implies a search for new opportunities to include mountain regions into large-scale international regional programs and development projects – it is globalization in the “mountain” context;*
- *at the national level it embraces the problems of mountain regions in national development strategies and the government reformation process (government decentralization).*

New legislative mechanisms for efficient management at the local level are a prerequisite for the support of mountain regions development. One should also take into account the property rights of the local people, adequately assess the cost of products and goods produced and services rendered by them, protect traditional values and cultures and protect vulnerable ecosystems as mentioned above. In only a few countries of the world are there mechanisms that directly address mountain issues. In the near future this task may be declared a priority in Kyrgyzstan.

Kyrgyzstan was one of the first CIS countries to have drafted a law “On Mountain Areas” that defines a legal environment and basic principles of government support to mountain regions.

Box 1.3

A draft law “On Mountain Areas in the Kyrgyz Republic”

The draft law “On mountain areas in the Kyrgyz Republic” has been developed at the initiative of the National Center on Developing Mountain Areas of the Kyrgyz Republic in cooperation with the Parliament’s Legislative Chamber committee, and deals with the issues of remote regions and regions with harsh natural conditions. The necessity of drafting a specific legislative act on mountain areas is beyond any doubt. The existing legislative acts meet some of the very specific requirements of preservation, use and support of mountain areas. But they neither define the status of a mountain region and the objects and subjects of legal regulation, nor do they regulate the relationships arising from living in the mountains. Bearing this in mind the draft law is aimed at defining a legal regime and the basic principles of state support to mountain areas, and at creating legal, economic and organizational preconditions for their sustainable socio-economic and cultural development.

Provisions of the draft law specify the criteria defining high mountain zones in Kyrgyzstan, impose conditions for the support of mountain regions on the basis of targeted programs and programs of socio-economic development, and suggest possible sources of finance. This draft law regulates the activities of the legislative and executive branches in the area of protection and rational use of natural resources of mountain areas and the authority of local government bodies in the area of protection and use of sustainable development of these areas and the citizens’ rights to use natural resources.

An annual report compiled by the Kyrgyz Government on the socio-economic situation in mountain regions, which is submitted to the Parliament, is one method of monitoring the current situation in mountain regions and attracting public attention to the existing problems. The approval of the law “On mountain areas of the Kyrgyz Republic” requires additional efforts to introduce amendments into the

The Kyrgyz law “On state guarantees and compensation to residents of high mountain areas” has been in effect for five years.

Pursuant to this law and Government resolution No. 377 of June 25, 1997, state guarantees

and allowances to reimburse the costs of extra material and physical expenses of citizens living and working under extreme natural conditions of high mountain regions have been established. According to the law, the state guarantees are warranted to all employed persons, compensation, monetary income indexation, allowances to the unemployed and tax breaks to enterprises located in high mountain regions.

A section dealing with the problems of high mountain regions development has been included into the Comprehensive Development Framework program for the Kyrgyz Republic; significant addenda have been introduced into such sections as “General Assessment of the Country’s Position”, “National vision of Kyrgyzstan’s Development by 2010”, “Strategy of the Nationwide Development and its Components”; the section entitled ‘Plan of Actions’ has been significantly complemented by specific projects prepared and supported by investors

Listed below are the advantages and potential opportunities that can serve as the basis for mountain areas development:

- availability of resources that may be turned into sources of income (not only water and mineral resources but recreational ones too);*
- ecological purity of mountain areas;*
- experience in overcoming obstacles through team efforts and in organizing communities;*
- a high, compared to many other countries, level of education;*
- positive attitude of the population to innovations and preparedness to improve or change qualifications.*

At the same time there are a number of factors that prevent the appropriate utilization of these advantages, namely:

- absence of clear understanding of the role of mountain areas within the framework of the regional policy;*
- underdeveloped material and information infrastructure;*
- local population and managers at different levels have no idea about potential types of economic activity and modern technological production processes;*
- cultural stereotypes oriented towards the isolation pattern of survival on the basis of natural economy;*
- fragility of ecological mountain systems and high risk of living and conducting economic activity in mountain regions;*

All the itemized obstacles can be basically overcome, though it will require additional efforts and investments. It has already been mentioned in previous national reports that the main method of overcoming existing problems and using existing advantages is to improve governance. It should change at all levels starting from local government bodies and communities in every rayon implementing regional policy up to promoting decisions and principles of international conventions at the national level.

CHAPTER 2. TERRITORIAL IMBALANCE AND DISPROPORTIONS IN HUMAN POTENTIAL DEVELOPMENT

Geographical and bio-climatic characteristics of Kyrgyzstan

Kyrgyzstan is located in the southeastern part of Central Asia, far from the sea (from 1,700 to 6,530 km). Its border with Kazakhstan is 1,113 km long, with Uzbekistan 1,374 km, with Tajikistan 972

km, and with China 1,094km. The total area of the Republic is 199,900 square km. The longest West – East distance is 925 km, and North – South 453.9 km. The republic is located within the eastern part of the Tien Shan and northern part of the Pamir Alay Mountain systems. Mountain ranges occupy the majority of the republic's territory, about 65%.

Kyrgyzstan is a mountainous country of unusual relief. More than 94% of its territory is 1,000 meters, or more, above sea level, and 40.8% is above 3,000 meters. (Table. 2.1) The average altitude is 2,750 meters, the highest point being 7,439 meters, and the lowest 401meters. More than 50% of settlements with 1,745 or more residents (or 36% of the population) are located between 1,000 and 2,000 meters above sea level. 5% of the population (240,000 people) lives in areas more than 2,000 meters above sea level.

Table 2.1

Displacement Structure by Altitude

Altitude - level, in meters above sea level	% of the total territory	Number of settlements	Number of residents, in .000s
400 – 1,000	5,8 %	704	2,838.4
1,001 – 1,500	7,5 %	572	1,044.3
1,501 – 2,000	15,1 %	406	700.9
2,001 – 2,500	14,1 %	146	220.5
2,501 – 3,000	16,1 %	24	18.8
3,001 – 3,500	17,8 %		
3,501 – 4,000	16,2 %	-	-
4,001 and higher	6,8 %	-	-

Source: National Statistics Committee of the Kyrgyz Republic (according to the First National Census)

There are four vertical relief-based climatic zones in Kyrgyzstan:⁷

- *valley-foothill* (500 to 900-1,200 meters above sea level). This is characterized by hot summers, temperately cold winters and acute precipitation deficiency;
- *mid-mountain* (900-1,200 to 2,000-2,200 meters above sea level). This is characterized by a typically temperate climate with warm summers and temperately cold snowy winters. The frost-free period lasts more than 7 months below 1,500 meters, and 6 months above 1,500 meters;
- *high-mountain* (2,000-2,200 to 3,000-3,500 meters above sea level). This is characterized by cool summers and cold, long-lasting snowy winters. The frost-free period lasts 3 to 4 months in the upper part of this zone;
- *nival* (3,500 meters and above). This is characterized by a severely cold climate. It is a glacier, rock, snow and moisture-accumulating zone.

Even though the whole country is characterized as being mountainous, the 5% of the population that live in the high mountain zone faces even more severe conditions. Bio-climatic zoning (climate severity and toughness assessment) conducted by the Institute of Physiology and Experimental

⁷Kyrgyz SSR Atlas. Vol.1 – Moscow, 1987

Pathology under the National Academy of Sciences⁸, demonstrated that a significant part of the country's territory comprises discomfort zones of little use for human life and activity (graph 2.1). Human labor in these zones is associated with high physiological losses - work efficiency is reduced by 10% between 2,000-2,500 meters above sea level, and this falls into the zone of compensated discomfort; work efficiency in the 3,000-3,500 meter zones, normally referred to as the zone of uncompensated discomfort, is reduced by 20%. Sharp continental climate and substantial altitude swings significantly increase the basic energy consumption required to maintain minimally acceptable life standards (heating, warm protective clothes, increased transport expenses, overcoming mountain obstacles, etc.), which are 1.5 to 2 times higher compared to the plains.

Box 2.1

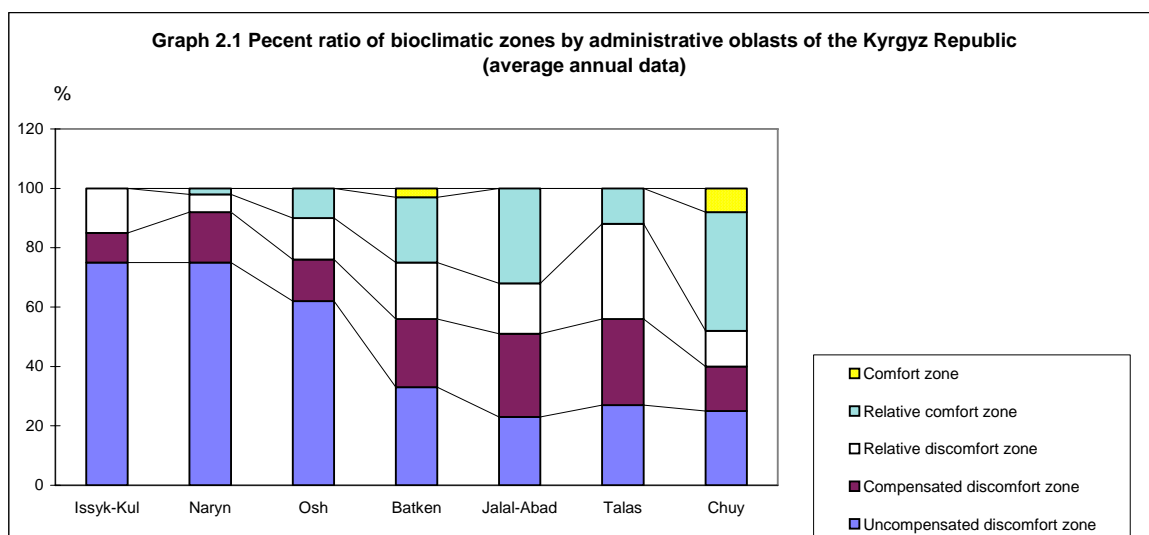
Bio-climatic conditions assessment

Comfort and discomfort assessment of climate is done on the basis of bio-climatic indices that encompass such parameters as temperature and air humidity, wind speed, atmospheric pressure, and solar radiation infectivity. Ideal bio-climatic conditions are those with a temperature of 22 °C, barometric pressure of 760 mm, relative air humidity of 50%, and the total absence of wind. Five comfort mountain zones are defined based on their influence on human activity and work capacity: comfort zone, relative comfort zone, relative discomfort zone, compensated discomfort zone and uncompensated discomfort zone.

The uncompensated discomfort zone constitutes 45,8% of the total territory of the country, relative and compensated zones – about 35%, and only 18,4% of the territory is characterized as a comfort zone. The percentage ratio of the bio-climatic zones, by administrative oblast, is given in graph 2.2

As can be seen from the graph, comfort zones are typical only for the Chui and Batken oblasts. The largest part of the relative comfort zone is located in the Chui oblast, the share being slightly smaller in the Jalal-Abad oblast, and then in descending order – in Batken, Talas, Osh and Naryn oblasts. Issyk-Kul and Naryn oblasts cover the biggest part of the uncompensated discomfort zone where huge masses of extremely high mountains are located.

⁸ *Mountains of Kyrgyzstan. – Bishkek, 2001. – Pp. 23-33*



Valley-foothill (low-mountain), mid- and high-mountain zones that include rayons of different oblasts (the list of different rayons is given in Annex 1) were defined on the basis of altitude and bio-climatic characteristics of settlements for the purpose of analyzing regional differences. This approach provided a general pattern independent of the country's administrative division. Comparison of the newly defined zones according to such parameters as *remoteness and difficulty of access, infrastructure, and demographic characteristics* is based on the official statistical data using sociologic research materials undertaken in preparing NHDR-2002.

Box 2.2

The approach to the territorial zoning of the Kyrgyz Republic

The following characteristics served as the basis for classifying administrative rayons as low-, mid- and high mountain regions:

- altitude and bio-climatic characteristics of the regions, and
- population density by bio-climatic zones.

In addition information on programs provided to and on state support for the inhabitants of high-mountain and remote regions of the Kyrgyz Republic were also been considered

Data on the size of the population in each of the five bio-climatic zones (comfort, relative comfort, relative discomfort, compensated discomfort, non-compensated discomfort), and the percentage of bio-climatic zones in each administrative rayon were submitted by the State Agency on Geodesy and Cartography under the President of the Kyrgyz Republic. The high-mountain regions include administrative rayons where zones of compensated and non-compensated discomfort were prevalent (over 70% of the territory), and where the majority of the population lives in the compensated discomfort zone. Some mining industry enterprises and summer pastures are located in the zone of non-compensated comfort, but there are usually not permanent settlements. The mid-mountain zone includes rayons where people mostly live in zones of relative and compensated comfort.

The formation of a statistical database of the Republic has been carried out on the basis of its administrative divisions. Due to this the impreciseness of high altitude borders this is presently is an objective reality that is closely connected to the fact that some socio-economic indicators are calculated

Remoteness and inaccessibility

The factor that most impedes potential human development in the mountain regions is difficulty of access. The road and transport communication structure has been destroyed in remote areas, and transport costs are now disproportionate to the population's real income.

On the whole the number of roads in the country is rather high (76.4 km of roads per 1,000 square km, and 4.3 km of roads per 1,000 people). The total size of the road grid is about 23,000 km including 10,000 km of roads of national importance.⁹ However, road quality leaves much to be desired (the road paving capacity does not meet the technical parameters of traffic volume, etc.). In addition natural processes lead to the destruction and rapid degradation of road paving and ensuing traffic accidents.

Natural geographic factors that hamper human activities encompass the region's orography (relief complexity and ruggedness, passes and steep slopes) these determine the displacement territorial isolation of settlements. The latter occasions both positive (preservation of original culture and ways of life of high-mountain populations) and negative (difficult to access settlements) results. High-mountain settlements are often detached from the economic and cultural centers of the Republic – Osh in the south and Bishkek in the north. This results in information isolation and underdeveloped business and cultural relations (Table 2.2). It also impedes the formation of household strategies and understanding the role of their own initiatives aimed at survival and development.

Table 2.2

Remoteness of aiyl okmotus from economic and cultural centers

Aiyl okmotu	Distance to the rayon center, in km	Transport fares, som/person *	Regularity of transport communication	Distance to the oblast center, in km	Transport fares, som/person *	Regularity of transport communication
<i>OSH OBLAST</i>						
Taldy-Sui	135	70	no regular communication	230	120	no regular communication
Alaykuss	120	142	no regular communication	220	200	no regular communication
Kyzyl-Jar	100	70	no regular communication	205	153	no regular communication
Chong-Alay	7	5	no regular communication	300	200	once per week
<i>NARYN OBLAST</i>						
Sary-Bulak	60	26	thrice per week	130	50	twice per week
Chet-Nur	22	18	twice per day	22	18	twice per day

⁹ *Geological security and risk of natural and man-made disasters in Kyrgyzstan.-Bishkek, 2000-p.129*

Taldy-Sui	40	20	twice per day	90	40	once per day
<i>CHUY OBLAST</i>						
Ak-Kuduk	6	5	thrice per day	28	13	thrice per day
Tuz	16	8	5 times per day	25	15	4 times per day

* Transport fares in 2002.

Source of data: sociologic research conducted for the preparation of NHDR –2002

High-mountain villages are, by and large, located far from roads of international importance. Usually these villages are linked by dirt roads of low quality. There are almost no paved roads linking villages with high-mountain pastures (above 2,500 meters) where cattle are kept and hay is stored in the summer. In winter high-mountain villages are inaccessible because of abundant snowfalls and the seasonal impassability of roads which results in poor provision of the villages and an increase in prices of foodstuffs. Residents of such villages have to turn almost completely to the natural economy and prepare substantial stores of foodstuffs for the duration of the seasonal impassability of roads.

Live voices

A home in the rear

Our village is called Oruk-Tam (or rear home in Russian). Our ancestors lived here, we live here, and I hope our children will also live here. Now there are about 50 households in the village. People are engaged in livestock breeding. They grow fodder crops. Climatic conditions do not enable us to grow grain, it does not ripen here. That is why we breed cattle and sell them. In return we buy flour, tea, everything we need. Here life has always been like that, our ancestors lived the same way.

After the collapse of the kolkhoz each family received between 60 and 100 head of cattle. Some did not manage to sustain their cattle and are now poor. They have land. I advised them to at least plant fodder crops. But they are too lazy even do that. There are families that would like to live and work here, but are not given the opportunity. That is why most of them have already left or are going to leave. 150 families have left for the lowlands. In general they are idle and do not want to work, and the poor do not know how to start.

But one can live here, it is just necessary to work. The conditions are, of course, difficult, but I think that everything depends on the desire to achieve one's goal. If a person wants to get on his feet, to achieve personal welfare, then he has to try and work very hard. But there are problems in our village that we will not be able to solve no matter how hard we try.

For example it is 75 km from our village to the oblast center. Is it really far? For instance it took you 4 hours to get here and you saw our roads. These roads were built in 1975. Our DEU does not have fuel or equipment, which is why it cannot change anything. The last year we ended up being isolated from the whole world. Firstly we were inundated with snow, then the road was washed away by downpours and thawing snow. The road was only opened on May 20th. It was a hard year for us. We ran out of flour, sugar, and tea.

We need our bridge as soon as possible. Now it has almost been rebuilt, but if the downpours come back they will again destroy the bridge. You saw that this bridge is dangerous to use. I applied to the DEU and akimiat, but they have neither money nor cement. There is a bulldozer, and they promised to make a detour, but it will not solve our problems.

Another problem for us is drinking water. There is a big river running next to the village. Its water is dirty in the summer, and freezes in the winter. And we all have to walk 3 km to a spring to bring water home. . To water the cattle we take them there. Water pipes were constructed 17 years ago and water used to flow through it. But having lasted for 11 years the system broke, the pipe

cracked, and there has been no more water for 6 years. We estimated that we would need 200,000 som for clay pipes. But specialists said such pipes were not suitable here. We need different pipes costing 300,000-400,000 som in total. We decided to have a marathon and then realized that we would be able to collect no more than 20,000-30,000 som and therefore we gave this idea up. This money would not solve the problem, it is not even enough to buy fuel and lubricants.

The akim came and the governor came. They promised that if the oblast or rayon receives a grant, or if a sponsor appears, then they will help us first. Our only hope is that this happens. Everything rests on money. Unless we would make other things by ourselves.

It would be good to have an antenna installed so that we had TV. I have a small radio set. Today it broke, but I will repair it. Yesterday I heard that a new Prime Minister had been appointed and listened to a program about the Jogorky Kenesh. I would also like to watch TV and to see how people live in other oblasts. On the whole I would like to get more information about life in Kyrgyzstan, and the rest of the world. Maybe then our people will understand that things can be done differently, or they will learn something useful. They say such an antenna costs 40,000 som.

There is one more serious problem. Honestly, I do not know how to solve it. Our land falls under the Chet-Nur aiyl okmoty. We are registered there and we pay taxes there. All necessary documents and certificates are also drawn up there. But life support questions are solved through the Ortok aiyl okmotu, as Chet-Nur is located far from us. We cannot transfer to the Ortok aiyl okmotu as it does not have land for us. If we start paying taxes to Ortok they will take away our land in Chet-Nur. To conclude with we have to solve this problem. We resemble children who, though having two nurses, are left without supervision.

If the government gave us a little help then we, the local residents and the aiyl okmotu, will together solve the rest of our problems.

*Aiyl Bashchy (80 years),
Oruk-Tam village, Naryn rayon, Naryn oblast*

The above story can be applied to many mid- and low-mountain regions of the country. However, an analysis of the list of settlements that are paid extra money for unfavorable natural and climatic conditions, according to governmental decision, revealed a rather tight correlation between the high mountain location of a settlement and the degree of accessibility (table 2.3). The share of remote and difficult-to-access settlements in high mountain zone (75.4%) far exceeds the number of such settlements in other zones.

Transport accessibility of settlements by Location

Table 2.3

Zones	Number of settlements	Settlements that get compensations for remoteness and difficult access		Out of them, those getting payments for differing degree of transport accessibility		
		Number	%	Satisfactory access	Difficult Access	Minimal access
<i>High mountain</i>	440	328	74.5	225	43	60
<i>Mid- mountain</i>	486	45	9.3	4	26	15
<i>Valley-foothill (Low-mountain)</i>	1349	99	7.3	21	78	-

Source: Kyrgyz Republic Government decree # 377 of June 25th, 1997

It should be noted that there are many subjective, as well as objective, obstacles that hamper transport accessibility. Existing economic difficulties do not mitigate the importance of administrative decisions at all decision-making levels with respect to road and transport service rehabilitation.

Mountain Settlements Infrastructure

Human potential development relies much on infrastructure. Underdeveloped social infrastructure in high-mountain zones is critical to such areas of human activity as family, social and cultural integration, and labor and communication.

Poor living conditions are not linked to the unavailability of dwellings. In general residents in the high mountain villages that were surveyed own their own dwellings (95.5% in the Naryn oblast and 98,3% in the Osh oblast), and these rates are almost the same for and lowlanders (Table 2.4). Poor living conditions stem from, first of all, uncomfortable houses and then from the absence of a centralized water supply and limited access to drinking water, a regularly interrupted power supply, the absence of sewerage systems and heating problems. These particular indicators show the differences in standards of living.

Table 2.4

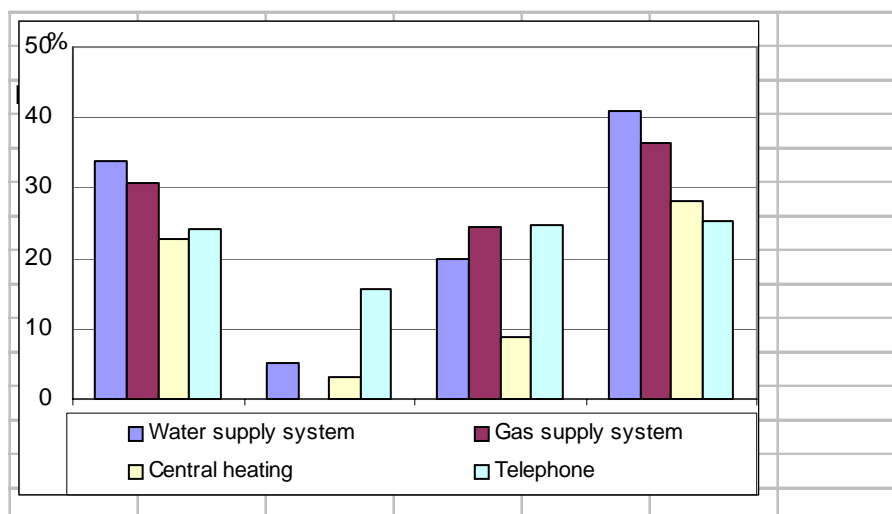
Dwelling provision per person (m²)

Location	1990		1995		2000		2001	
	total space	living space	total space.	living space.	total space.	living space	total space.	living space.
<i>High-mountain regions</i>	11,0	8,3	11,3	8,6	11,5	8,5	11,5	8,5
<i>Mid-mountain regions</i>	11,9	9,2	13,0	9,9	13,1	10,0	13,1	9,9
<i>Low-mountain regions</i>	11,9	8,4	12,4	8,9	12,3	8,8	12,4	8,8

Source: National Statistics Committee of the Kyrgyz Republic

A limited number of families use basic public utilities in high-mountain regions. 15,5% of them have telephones, about 5% of households have a central water supply system, 3% a central heating system (graph 2.3). High-mountain households, for the most part, use stove heating (more than 69%) and electricity (about 20 %).

Graph 2.2. Access to Public Utilities (as a % of the total number of households)



Graph 2.2 Source: National Statistics Committee of the Kyrgyz Republic (according to the survey on household budgets in 2001)

The cessation of the centralized delivery service of gas-cylinders for cooking and coal for heating has resulted in the general use of pressed dung and wood. High mountain regions use pressed dung almost three times as much as in the lowlands (Naryn oblast – 67%, Osh –72%, Chuy –23%). Even though almost the whole country is electrified, frequent and long-lasting interruptions to the power supply do not allow the use of electric facilities as a reliable source of energy. Disintegration of the old centralized electricity supply system, an increase in the cost of electricity and outdated equipment has resulted in everyday electricity supply stoppages in mountain regions becoming the norm (Table 2.5). 93.4% of high-mountain residents point to daily interruptions in the supply of electricity, which is three times as much as the equivalent indicator for the low-mountain population. The population often pays for having old transformers repaired even though they consider existing electricity prices to be too high for their family budgets.

Table 2.5

Electricity provision by place of living
(in %)

Electricity cessations	Regions			Kyrgyz Republic
	high-mountain	mid-land	low-mountain	
never		0,3	4,4	3,3
several times a year	0,2	16,2	21,9	18,7
once a month	1,3	13,0		14,6
once a week	-	20,1	8,5	9,1
several times a year	5,2	35,5	17,3	18,4
every day	93,4	14,8	31,0	35,9

Source: National Statistics Committee of the Kyrgyz Republic (according to survey on household budgets in 2001).

The heating season in high mountains lasts 7-8 months; and every household needs 6-7 tons of coal. Since it is very costly, the population cannot afford to buy it. This is why the closest

forests are felled, and this causes significant ecological damage. There are no organized forms of energy suppliers delivering to villages, and this makes fuel provision at lower prices difficult.

«Electricity in mountain villages has been an irreplaceable energy for lighting, running household devices and radio and TV sets. Showing a preference for electricity, villages choose comfort, whilst pressed dung and kuray (dry grass) are popular because they are accessible and free forms of energy in the county's present economic situation.

As to alternative energy sources, for instance solar facilities, wind and biogas utilities, people consider them to be unaffordable».

Energy situation in KR mountain villages. CAMP report. – Bishkek, 2001

Almost a fifth of the rural population and a third of the high-mountain population use irrigation ditches and river water for drinking and cooking; this has created a serious danger to their health (table. 2.6).

Table 2.6

**Water supply sources by place of residence
(in %t)**

Location	Centralized water supply system	Water station (kolonka)	Well	Spring	River, irrigation ditch
Kyrgyz Republic	33,9	45,6	3,4	1,1	16,0
High-mountain regions	5,1	55,4	2,8	5,8	31,0
Mid- mountain regions	19,8	63,8	3,1	1,3	12,1
Low-mountain regions	40,8	40,9	3,5	0,3	14,5

Source: National Statistics Committee of the Kyrgyz Republic (according to the survey on household budgets in 2001)

According to the data of the sociologic survey conducted in preparing NHDR-2002, the percentage of the population in individual mountain villages that uses springs, rivers and irrigation ditches as the main source of drinking water has significantly increased - 77% of the families surveyed in the Naryn oblast and 94% in the Osh oblast. In addition, correspondingly, for 49% and 55% of these oblast residents water sources are located far away (up to 500-1,000 meters). As a comparison, 96% of respondents in the Chuy oblast have access to the centralized water supply system (though it works with interruptions), and 4% have their own water supply systems.

It's surprising that 77% of respondents in the Osh oblast (more than in other oblasts) consider the water they drink to be of good quality. Only 33% of Naryn oblast residents and 60% of Chuy oblast residents expressed the same opinion. However, 32% of Naryn oblast residents are dissatisfied with the quality of the water and another 21% think that water quality is to with natural conditions.

Thus the absence of a developed infrastructure in high-mountain settlements hampers the reliable and sustainable development of these areas.

Demographic situation in high-mountain regions

Modern demographic and migration trends that have been emerging for many years reflect the sequence of social and economic changes in the country's development. In recent years Kyrgyzstan's population dynamics and character have experienced a radical change conditioned by market reforms, changes in social infrastructure, and a shift to new ideological and motivational aims. Geographical differences in the country regions have made for specific patterns in the process of demographic development in high mountains that turn to be the most socially unprotected areas.

Number and structural changes in the population

During the mid '80's the demographic situation in Kyrgyzstan had been developing smoothly and the 1.9% general population growth rate remained stable. Economic, social and political changes in the late 80s changed the country's demographic situation. The birth rate decreased while mortality and immigration rates increased. General depopulation began in 1990 when population growth became negative for the first time.

From 1990 until 2000 (according to end of year estimates) the population of Kyrgyzstan increased by 482,700 people (10,9 %), mainly due to the population increases in the lowlands (85% of the whole increase). In the high- and mid-mountain regions the population increased by slightly more than 30% (Table 2.7), mainly due to the population growth in the southern mountain regions.

Table 2.7

Constant population change by zones

Locality	Population growth during the period:			
	1990–2000		2000–2001	
	,000 persons	%	,000 persons	%
Kyrgyz Republic	482,7	10,9	38,9	0,8
High-mountain zone	36,4	8,9	6,5	1,5
Mid-mountain zone	34,2	5,7	5,3	0,8
Low-mountain zone	412,1	12,1	27,1	0,7

Source: National Statistics Committee of the Kyrgyz Republic

The change in the number of people in some high-mountain regions has had its distinctive features. The urban population in the Jumgal rayon and Naryn decreased by 20%, whilst the total number of residents in the Naryn oblast increased by 2.8%. A different picture was revealed in the southern high-mountain regions of the country. There the number of people grew by more than 25% between 1990 and 2000, mainly due to a higher birth rate in the Osh oblast. It is worth noting that in the Chong-Alay rayon it increased by 45.5%

During 2001 there was a slowdown in the population growth rate, a decline that testifies to some stabilization in the demographic situation of the country. Now the highest population growth rate is a characteristic of high-mountains, and it is twice that of mid- and low-mountain zones.

Natural population growth

Natural population growth in the Kyrgyz Republic from 1990 to 2000 was characterized by a decrease in the natural population growth coefficient. This trend was most obvious in lowlands where this coefficient decreased by about 44%. Recently the situation in the Republic has been changing and a small increase in population growth has been registered in all the zones except for the high-mountains (table 2.8).

Table 2.8

Natural population growth coefficient dynamics (1990-2001)

Location	Per 1,000 people,				Growth rate (decrease), in %	
	1990	1995	2000	2001	2000 to 1990	2001 to 2000
Kyrgyz Republic	22,2	17,6	12,8	13,2	57,7	103,1
High-mountain	28,5	21,7	17,7	17,2	62,1	97,2
Mid-mountain	23,3	17,4	14,3	15,2	61,4	106,3
low-mountain	21,3	17,0	12,0	12,4	56,3	103,3

Source: National Statistics Committee of the Kyrgyz Republic

It should be mentioned that since 1996 opposing changes in the natural population growth in high-mountain regions in the north and south took place. In the Naryn oblast the coefficient of natural population growth increased from 16.9 to 17.2 per thousand, whilst in the south it declined - in the Alay rayon from 20.2 to 15.1, in the Kara-Kuljinsk rayon from 26.1 to 17.6 and in the Chon-Alay rayon from 35.7 to 25.6 per thousand.

The main element of natural population growth is the birth rate. An analysis of birth rate dynamics in the country shows that for the period from 1990 to 2001 it reduced from 29.1 to 19.8 per thousand (by 32%). However in 2001 it increased significantly (table 2.9).

Table 2.9

Dynamics of overall birth rate (1990-2001)

Territory	Per 1000 people of population,			
	1990	1995	2000	2001
Kyrgyz Republic	29,1	25,6	19,7	19,8
High mountain zone	34,8	29,5	24,1	23,5
Midland zone	30,6	26,1	21,7	22,3
Lowland zone	28,2	25,0	18,9	19,0

Source: National Statistic Committee of the Kyrgyz Republic

Despite the fact that the birth rate in the high mountain zone has reduced by 48% since 1990, it remains the highest in the republic and constitutes 23.5 per thousand. Meanwhile, table 2.10 shows that the mortality rates in the high mountain zone remain the lowest (6.3 per thousand). The dynamics of these two processes explains the existing natural population growth in high mountain zones.

The change to the mortality rate in the high mountain zone is similar to the average mortality rate in the Republic. For the period from 1990 to 2001 a considerable increase in the mortality rate occurred. In 1994-1995, and since 1996 the mortality rate has begun to decrease gradually. By 2001 the mortality rate was equal to 6.6 per thousand while in 1995 it was 8.0 (table 2.10).

Table 2.10

Dynamics of mortality rate

Territory	Per 1000 people of population, per mile			
	1990	1995	2000	2001
Kyrgyz Republic	6,9	8,0	6,9	6,6
High mountain zone	6,3	7,8	6,4	6,3
Midland zone	7,3	8,7	7,4	7,1
Lowland zone	6,9	8,0	6,9	6,6

Source: National Statistic Committee of the Kyrgyz Republic

An analysis of the situation reveals that in the northern high-mountain regions (Naryn oblast) the mortality rate (7.1) exceeds the national average, and is higher if compared to the situation in the high-mountain regions of the south (5.1)

The highest mortality rate is in the mid-mountain zone and this is mainly caused by the figures registered the Issyk-Kul oblast (7.8) and the Kemin rayon of the Chuy oblast (9.4).

Dynamics of sex and age composition of the population

Any change in the sex and age structure of the population is an important factor in the demographic processes. Over the last decade no substantial changes in the sex ratio has taken place in the Republic. In early 2002 women comprised 50.6% and men 49,4% of the total population. In the high-mountain zones the percentage of men is somewhat higher than in mid- and low-mountain zones. This situation is caused by the higher birth rate in high-mountain regions and, consequently, there is prevalence of men in younger age groups.

In demographic terms Kyrgyzstan's population is young. According to the First National Census the average age is about 26. During the 1990-2001 period, in all zones, the share of people younger than able-bodied age (16 years old) obviously decreases and the number of able-bodied people grows (Table 2.11). At the same time in the all zones, except for high-mountain zones, a decrease in the number of elderly people was also observed. This may be related to a lower mortality rate in high-mountain regions.

Table 2.11

Percent ration of age categories of population

Territory	Population		
	Younger than able-bodied age	Able-bodied age	Elder than able-bodied age
<i>Kyrgyz Republic</i>			
1990	39,6	50,4	10,0

2000	36,7	54,4	8,9
2001	36,0	55,2	8,8
<i>High-mountain zone</i>			
1990	47,8	44,4	7,8
2000	42,5	49,3	8,2
2001	41,6	50,2	8,2
<i>Middle-mountain zone</i>			
1990	42,2	47,9	9,8
2000	39,2	51,3	9,4
2001	38,5	52,2	9,3
<i>Low-mountain zone</i>			
1990	38,0	51,6	10,4
2000	35,6	55,5	8,9
2001	34,9	56,3	8,8

Source: National Statistic Committee of the Kyrgyz Republic

As a result of age composition changes the number of children younger than 5 year old has decreased by 133,800 (79.1% by 1990) over the reviewed period, and this is related to a continuing decrease in the birth-rate. The number of children under the age of 5 decreased considerably in the low-mountain zone (by 97,000) where the majority of people live. The same situation occurred in the high-mountain zones, but only 9% of population live there, and the number of children younger than 5 years has decreased 1.3 times.

In general the changes in age structure result from the process of population ageing. According to the UN classification, a country is considered to be a young one if the share of elderly people (65 and more years of age) equals 4%, and the share of old people 7%. According to the data of the National Statistic Committee of the Kyrgyz Republic the percentage of such people in Kyrgyzstan reached 5.5%, and thus the country can be characterized as **senescent** one.

The changes in age composition of the population have influenced the load factor on the able-bodied population: in general During the last decade the tendency was downward and by the end of 2001 was equal to 837 persons for every 1,000 able-bodied people (Table 2.12). Nevertheless, in some high-mountain regions this figure is very high and reaches, for example, in the Naryn rayon 1,050, and in the Chon-Alay rayon 1,150 people.

Table 2.12

Dynamics of load factor on able-bodied population (1991-2001)
(per 1000 people of able-bodied population)

Territory	1991	2000	2001	2001 к 1991, в %
Kyrgyz Republic	982,8	892,1	837,3	85,2
High-mountain zone	1,252.4	1,101.1	1,029.2	82,2
Mid-mountain zone	1,086.8	1,006.8	948,0	87,2
Low-mountain zone	937,9	852,4	800,4	85,3

Source: National Statistic Committee of the Kyrgyz Republic

Distribution of households by size shows that large households (5 or more people – 44.5%) are typical for the whole Republic. In high-mountain regions such families constitute about 70%, in mid-mountain regions 55% and in plain regions 40.2% (Table 2.13). There are no one-member households in high-mountain regions, and their share in plain and mid-mountain regions is 7.4% and 44.4% respectively. There exist some differences in household composition. In the high-mountain zones 53.9% of families have 2-3 children and 22.3% 4 or more children. In mid-mountain and plain regions the share of families with 1 to 2 children prevails (66.5% and 69.4% correspondingly). Though the number of employed people in low-mountain regions is considerably lower, the dependence rate and load factor on one worker is higher in high-mountain regions (1.85). Due to this the influence of the economic situation on a family member and a household in the high-mountain zone is several times stronger.

Table 2.13

Demographic characteristics of households
(*person*)

	Size of family	Child ren	Adults	Elderly people	Dependency rate	Employed
Kyrgyz Republic	4,34	1,56	2,39	0,38	1,51	1,66
High-mountain regions	5,27	2,32	2,48	0,47	1,85	1,73
Middle-mountain regions	4,79	1,81	2,60	0,38	1,57	1,80
Flat (low-mountain) regions	4,15	1,43	2,35	0,37	1,46	1,63

Source: National Statistic Committee of the Kyrgyz Republic (result of households' budgets research, 2001)

Thus an analysis of the demographic indicators has revealed the following trends being characteristic of high-mountain zones - the highest rate of population growth due to a natural population growth, the highest load factor on able-bodied population and a high dependency coefficient.

Nature of migration processes

Population migration, both internal and external, is one of the main factors influencing the demographic situation in the country and regions. Migration is motivated by personal objectives in the area of sociological and economical integration and the professional ambitions of people, but it can also be considered as a strategy for the economic development or survival of a family or group. Migration results from individual or collective decisions that are aimed at achieving improved living conditions: accommodation, economic opportunities, social integration and safety. The peak migration flow during the last 10 years was recorded between 1990 and 1995, and then for the second time migration increased during the Batken events (1999-2000).

A migration analysis by altitude above sea level has revealed a substantial population shift from high-mountain regions to valleys. These migration flows are closely connected to various

aspects of the economic situation in the mountain regions (shortage of pastures, decay of the mountain mining industry), as well as with potential alternatives available in valleys.

The levels of migration in Kyrgyzstan by altitude zones are presented in Table 2.14. In all zones the total number of emigrants is greater than the number of those who come into the country. The most substantial migration outflow of population is seen in the low-mountain zone, and a high level of emigrants has been registered in mid-mountain areas. Whilst in the high-mountain zones there has been a considerable decrease in the migration process recently, in low- and mid-mountain regions it has been the other way round with negative migration increases (the migration balance increased in the low-mountain and mid-mountain zones 4 and 1.2 times respectively between 1996 and 2001).

Table 2.14

Total number of migrants according to domicile (1996-2001)
(number of people)

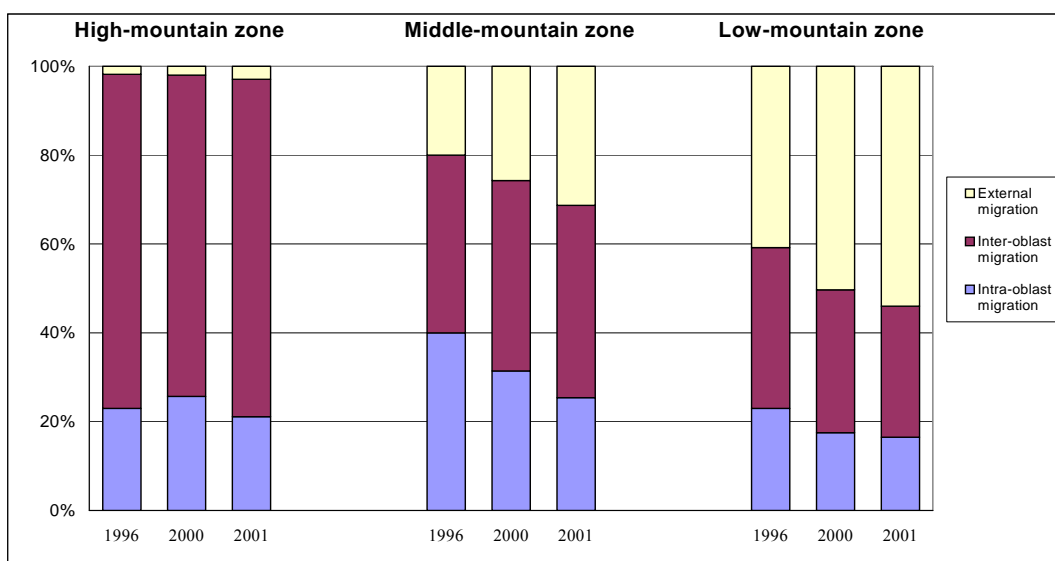
Territory	Incoming	Leaving	Balance
<i>High-mountain zone</i>			
1996	3,017	6,781	-3,764
2000	2,410	4,439	-2,029
2001	2,277	3,825	-1,548
<i>Mid-mountain zone</i>			
1996	7,078	10,531	-3,453
2000	3,267	6,864	-3,597
2001	2,969	7,163	-4,194
<i>Low-mountain zone</i>			
1996	57,096	61,989	-4,893
2000	33,960	51,698	-17,738
2001	32,986	54,290	-21,304

An analysis of the migration structure by territory (intra and inter oblasts, and externally) for the whole study period (1996-2001) shows that in the high-mountain zone inter-oblast migration constitutes the highest volume. The share of external migration is insignificant. The external migration outflow (CIS and other countries) is typical for the low-mountain zone where it increased from 41% to 54% for the 1996-2001 period.

Migration has undergone the process of “opening”. It has expanded from a CIS scale to a world one. At the same time it has decreased from the CIS scale to an one-country scale. In the national context, the economic situation led to the increase of population in rural areas and the fast growth of the capital and its satellites.

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Swiss Federal Institute of Technology, Lozzana, Switzerland

Graph 2.3. Percent ratio of leaving population by inside-oblast, inter-oblast and external migration



Source: National Statistic Committee of the Kyrgyz Republic

The ethnic composition of high-mountains has radically changed over the last 10 years (1989-1999). An intensive outflow of non-native people (more than 90%) - Russians, Uzbeks, Ukrainians, and Germans – has led to practically complete monoethnicity. (Table 2.15)

Table 2.15

Ethnic composition of territories

	Total			Including by-zone								
				High-mountain			Middle-mountain			Low-mountain		
	1989	1999	%	1989	1999	%	1989	1999	%	1989	1999	%
Kyrgyz republic	4257,8	4823,0	13,3	452,8	440,4	-2,7	632,4	625,6	-1,1	3172,6	3757,0	18,4
including:												
Kyrgyz	2229,7	3128,1	40,3	385,8	435,7	12,9	466,9	510,7	9,4	1377,0	2181,7	58,4
Uzbek	550,1	665,0	20,9	31,7	1,3	-95,9	28,8	32,5	12,8	489,6	631,2	28,9
Russians	916,6	603,2	-34,2	20,1	1,0	-95,0	93,2	51,0	-45,2	803,3	551,2	-31,4
Dungans	36,9	51,8	40,4	0,5	0,4	-20,0	2,8	3,0	7,1	33,6	48,4	43,9
Ukrainians	108,0	50,4	-53,3	3,5	0,1	-97,3	9,6	3,6	-62,4	94,9	46,7	-50,8
Uigurs	36,8	46,9	27,4	1,4	0,6	-60,7	3,9	3,8	-1,5	31,5	42,6	35,1
Tatars	70,0	45,4	-35,1	4,8	0,5	-89,6	4,2	2,8	-32,5	61,0	42,1	-31,0
Kazak	37,3	42,7	14,5	0,7	0,4	-48,3	6,2	6,3	1,5	30,4	36,0	18,4
Tajik	33,5	42,6	27,2	0,7	0,2	-67,7	2,9	3,5	21,9	30,0	38,9	29,6
Turk	21,3	33,3	56,3	0,2	0,04	-79,5	0,1	0,2	131,0	21,0	33,1	57,4
German	101,3	21,5	-78,8	0,7	0,02	-96,9	4,8	0,8	-84,0	95,8	20,7	-78,4
Koreans	18,4	19,8	7,6	0,2	0,00	-98,5	0,3	0,1	-50,3	17,8	19,6	10,3
Azeri	15,8	14,0	-11,4	0,2	0,01	-94,0	0,4	0,2	-60,3	15,2	13,8	-8,9
Kurds	14,3	11,6	-18,9	0,4	0,03	-93,0	0,04	0,03	-27,9	13,8	11,6	-16,2

Reasons for ethnic migration

All countries of the former Soviet Union went through the process of strengthening their national identities. Perhaps the most important element was to define the status of the state language; all

The able-bodied population is predominant among migrating people, the migration balance of the able-bodied population in the high mountain zone being 10 times higher than the number of migrants outside this category. In the mid-mountain zone the population older than the able-bodied age is more mobile than the same population in the high mountain zone. This is more typical of the low mountain zone inhabitants. To a certain extent it reflects the reasons for migration. People leave high mountain areas in search of a job, whereas whole families leave the low mountain zone for the CIS countries and beyond.

It should be mentioned that the Naryn oblast plays the major role in the migration processes that take place in the high-mountain areas. Migration outflow from the Osh oblast is seven times lower. Moreover, migration in the Naryn oblast is characterized by inter-oblast migration while for the Osh oblast there are both inter-oblast and intra-oblast types of migration.

The population of the Naryn oblast constitutes 5% of the total population of the Republic and the number of emigrants was over 47,000 people (18.5% of the constant oblast population) over the last 10 years. During the period from 1996 to 2000 the outflow constituted between 20% to 30% of the total migration outflow from the Republic. People mostly move from rural areas and degrading towns to the capital city and Chui oblast. Since 1996 the migration flow has decreased by 27% over the whole Republic and by half as much in Naryn oblast.

Table 2.16

Inter-oblast migration outflow 1996-2000 .
(number of people)

Territory	1996	1997	1998	1999	2000
Kyrgyz republic	- 9075	- 7560	- 8603	- 5720	- 6614
Naryn oblast'	- 2702	- 1654	- 2194	- 1425	- 1363
<i>Percentage of the Naryn oblast' in the total migration flow</i>	30,0	21,9	25,5	24,9	20,6

source: National Statistical Committee of the Kyrgyz Republic.

The paradox of the internal migration in Kyrgyzstan lies in the correlation between the attraction of rural areas during the unstable economic period and emigration to urban areas, which themselves face outrageous economic problems.

Martin Schuler

Some positive tendencies in migration processes have been identified during the sociological survey conducted within the framework of NHDR-2002. The fact that people had been given land and provided with micro-financing resulted, in some cases, of re-emigration to their places of former residence (either during agricultural seasons or for permanent residence).

During the past five years 6.7% of the interviewed people had moved to the high mountain rayons of the Naryn oblast, 3.4% to the Osh oblast. 10% of those in the Naryn oblast and 16.7% in Naryn had returned from the cities. These migrants mostly have secondary or special secondary education - 80 % in the Naryn and 83% in the Osh oblast. The age of the half of the migrants to high-mountain rayons of the Naryn oblast is between 26 and 36 years. The age range of the migrants to the Osh oblast is wider, from 26 to 45 years of age.

The causes of the migration patterns vary from region to region. For the respondents in the Naryn oblast the most common answer was *returning to homeland* (60%). Another 20% were counting on *receiving land* and being able to afford a family due to the cheaper cost of living (table 2.17). One of the additional arguments for returning was the necessity of helping ageing parents. In the Osh oblast the dominating reasons were *family matters* (33.3 %), as well as several equally frequently used reasons for moving - *searching for work, hopes of starting businesses, hope of becoming employed and returning to homeland* (16.7 % each).

Table 2.17

Respondent's answers to the question of the reason for migration to high-mountain regions
(in %)

Reason for moving	Chui oblast'	Naryn oblast'	Osh oblast'
Family matters	50,0%	0,0%	33,3%
Searching for jobs	10,0%	0,0%	16,7%
Prospect of starting own business	30,0%	0,0%	16,7%
Hope to receive land plots	0,0%	10,0%	16,7%
Return to homeland	0,0%	60,0%	16,7%
Cheaper life in the village	10,0%	10,0%	0,0%
Job necessity	0,0%	20,0%	0,0%

Source: data of the survey conducted during the preparation of NHDR-2002

24.5% of the respondents in the Chui oblast expressed their readiness to move, 9.3% in the Naryn oblast and 16% in the Osh oblast. The most attractive migration centers for the residents of the Chui oblast are the CIS countries 38%, rayon centers 22% and Bishkek 11.5%. From the Naryn oblast they were Bishkek 57% and Osh 36%. Lack of jobs, worries about the future and the quest for a better life were named as the motivating reasons for changing the place of residence.

For the inhabitants of mountain areas the dominating factor is the quest for a better life (in 50% of cases when people were prepared to move) whereas for the inhabitants of the Chui

oblast this factor is on the same level as worries about future, family matters and lack of jobs (approximately 20% each).

It is necessary to mention that the migration activity towards rayon and oblast centers and the capital is greater in families where there are schoolchildren due to the fact that many rural areas lack qualified teachers and parents are not satisfied with the standards of education .

27 % of the respondents in the Chui oblast have a real opportunity to move. In the high mountain rayons of the Naryn oblast this figure is 57% and in the high mountain rayons of the Osh oblast 25% of people are ready to change their place of residence. Negative answers were given concerning the change of residence by 29% of respondents in the Osh oblast and 12% in the Chui oblast. In the Naryn oblast all the potential migrants are ready to stay in their place of residence if they are provided with a job and salary. Some of these families are ready to change their plans if they succeed in starting their own business (3%), the same number of people that rely on social benefits from the government.

Thus the internal migration processes are still rather intensive, but there are some positive tendencies that are closely related to a decrease in migration flows and, some cases, of re-emigration to high-mountain regions.

Migration perspectives in Kyrgyzstan

The pattern of the international migration in the second half of the 90s differed from that of the first half because emigration abroad has decreased. On the other hand the internal migration flow is still high and directed from rural to urban areas, and from mountain regions to plains, especially to the Chui valley and Bishkek. This migration is considered to be an expression of the chain migration where people occupy free places. At present emigration from the rural areas is not only absolutely negative but is even higher than natural growth. Many rayons in the Talas, Naryn and Issyk Kul oblasts are stagnating and even losing their population. In southern Kyrgyzstan where the natural growth is much higher the migration from village to city hardly copes with absorbing the superfluous population and international migration is nebulous.

The north and the south differ not only in demographic and economic structure, but also in their orientation towards neighbors which enhances cross-border migration. The role of Bishkek as the center of modern economic and cultural life has an integrating impact. Nevertheless the development of transport communications inside the country and establishment of Osh as the second national cornerstone can lead to strengthening of the north-south shift.

In the near future international emigration will continue because the combination of factors in the countries of destination, especially in Russia, will be positive. But these population losses should not have a negative impact on the quality of workforce; though quantitatively it will not be any different from the past. On the other hand there is a real risk of an internal migration increase that will lead to the depopulation of rural areas, in particular in the north, and in high mountain areas where there will also be a fall in natural growth. Without taking effective measures through regional politics, urbanization will continue and will seriously ruin the balance between population growth in rural and urban areas. Obviously rural policies will have to be oriented toward creating vacancies in different areas including industry and tourism, construction and transportation.

Indexes of human potential development: territorial aspects.

Human Development Index.

The Human Development Index (HDI) is the main indicator created within the framework of the concept of human development that enables measurements to be calculated in this area. It takes into account the changes of the three basic factors (education, health protection and level of income) that define the opportunity of every person to live a “long, happy and interesting life” not as an individual, but on a larger scale – on the state level, as a rule. Recently many countries including Kyrgyzstan have been calculating regional indexes. This Report is the first attempt to quantitatively describe the human development processes on the basis of the altitude of the place of residence. The strength of this approach is that it is measurable and allows the discussion of the trends and outlooks of regional development, first of all, and includes the specifics of mountain and plain rayons and not just within selected oblasts.

It makes absolute sense to consider the dynamics of the HDI for every high zone within the framework of the HDI of the state and all its components (*table 2.18*).– index of education, index of life expectancy and index of income¹⁰.

Table 2.18

Dynamics of HDI in the Kyrgyz Republic

	1996	2000	2001
HDI	0,688	0,719	0,723
Life expectancy, years	66,6	68,5	68,7
Percentage of pupils, %	64,3	71	71
Literacy, %	97,3	98,7	98,7
Income (GDP according to PPP, USD)	2101	2521	2634

Source: National Statistical Committee of the Kyrgyz Republic

In 2001 the bias of index growth from past years is applicable. This year’s growth was mostly connected to the small growth (4.5%) in GDP taking into account PPP (Table 2.19). The situation in public health is still stable and evaluated through life expectancy. The education area also looks just as promising. However, traditionally high indexes in these areas are somewhat ambiguous if you take a closer look at them.

Table 2.19

HDI dynamics by zones (1996-2001)

	1996	2000	2001
High mountain	0,672	0,689	0,691
Middle-land	0,669	0,732 (0,698) ¹¹	0,739 (0,714)

¹⁰ See the detailed method of calculating HDI in the appendix

Lowland	0,689 (0,685)	0,718 (0,715)	0,722 (0,729)
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Source: National Statistical Committee of the Kyrgyz Republic

As expected the HDI dynamics by zones reflects the national index dynamics where only the index for plains is on the same level as that of the national one. HDI for high-mountain zones is substantially lower. Nevertheless, the increase in the HDI for mid-mountain rayons pronounces the contribution of such companies as Kumtor Operating Company⁶ to the mid-mountain zones GDP rather than just describes the human development processes in these zones. It was also confirmed by the HDI dynamics – in 1996 the mid-mountain zones had a lower index than that of the high mountain zones, and over the last five years the index increased by 10.5%.

Table 2.20

HDI Components by zones in 2001

Territory	HDI	Life expectancy index	Level of Education index	Income index
Kyrgyz Republic	0,723	0,728	0,895	0,546
High-mountain zones	0,691	0,728	0,877	0,469
Middle-mountain zones	0,739	0,722	0,885	0,610
Low-mountain zones	0,722	0,728	0,899	0,540

Source: The National Statistics Committee of the Kyrgyz Republic

Discrepancies in the HDI for high-mountain zones are altered firstly by the difference in income indices, where the income index in the plains is 34.5% higher than that of the high-mountain zones. This number proves that the standard of living in the mountainous regions of Kyrgyzstan differs from that of plains and valleys. However HDI as a comprehensive indicator reflects not only those opportunities that are directly related to material expenses. The situation in healthcare and education can also influence the index.

It is important to note that anticipated life expectancy in the low- and high-mountain zones is practically the same, but this does not mean equal access to healthcare services in the two zones. Rather, these indices convey favorable environmental conditions in the mountains and some traditional methods of adapting to the environment. According to the sociological survey conducted for NHDR 2002, accessibility and quality of healthcare services usually do not meet the expectations of people who demand substantial improvement. The same is true of high-mountain and low-mountain zones.

¹¹ The data in the parentheses do not include the activity of the gold-extracting and companies - “Kumtor Operating Company)

⁶ *Although the company is located in the high-mountain zone, it belongs to the administrative area Jeti-Oguz rayon, and subsequently was attributed to the middle-mountain zone.*

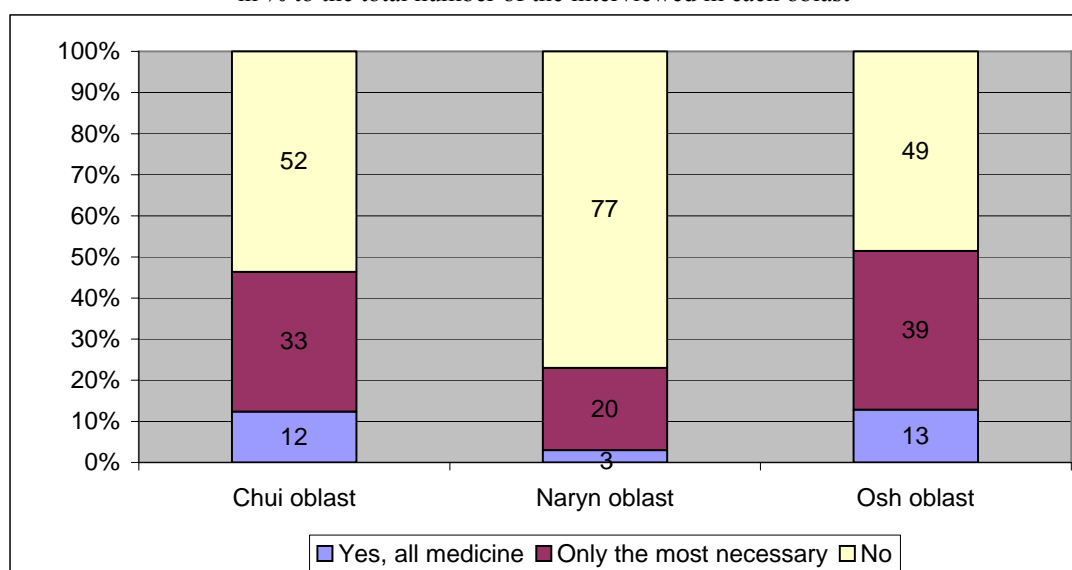
Accessibility of medical services in mountain villages

Residents of mountain villages are highly concerned with healthcare service problems.. On the one hand, 72% of the interviewed heads of household expressed their satisfaction with the medical assistance on offer in the mountain villages. They are mainly satisfied with area/family doctors and FAP. On the other hand the slow development of healthcare was identified as the most important issue in mountain villages. Specifically the FAP services and FGP aroused dissatisfaction among the focus groups during the interview. Villagers have to go to the rayon administrative center or the *aiyl okmotu* to obtain a doctor's note, health cards, or get examined. As a result, one third of the interviewed people go to the rayon hospital or medical officers to obtain healthcare assistance of higher quality. Approximately 10% of people have to take a trip to provincial centers or to Bishkek. Taking into consideration the distance and poor transportation, trips to a provincial center create another problem. Villagers of Chet-Nurin, Naryn rayon, and Ala-Kuu, Kara-Kuldja rayon expressed their concern about their relatives in the case of emergency situations, such as immediate surgery. Only one dentist, whose facilities consist only of one chair, works in the village of Kok-Artin the Ala-Kuu *ayil okmotu*,

It is thought that high satisfaction with healthcare service in the mountainous areas is explained by the fact that most of the heads of households are men, who do not have full understanding of the FAP and other services.

Much criticism from the villagers is toward access to medicine and drugs, or more correctly, inaccessibility. Only one person in ten respondents can buy all medicines. Three out of 10 respondents can buy only necessary medicine. The rest found the question difficult to answer. The opportunities to buy medicine in the studied oblasts are shown in the diagram.

Answers to the question:
“Can you buy medicines in your villages?”
 in % to the total number of the interviewed in each oblast



The main reasons for limited access to medicines in the mountain zones is absence of drugstores. 53% and 77% of respondents from the groups in the Osh and Naryn oblasts, respectively, identified this as the main reason. In the Chui oblast lack of money was identified as the main reason (50%). 16% from the Osh, 9% from Naryn and 1% from Chui oblasts identified limited choice of medicine as a problem.

Limited or inaccessible medicine and financial constraints of the population and the distance from provincial centers are the most important factors in the increase in brucellosis in the Chong-Alay rayon, Osh oblast. Medical treatment of one person costs 1,500-2,000 som. In cases where the whole family is ill, including children and older people, medical treatment requires considerable financial and material resources. Not every family can afford it. That is why ignoring the necessity to develop qualitative and accessible medical services results in negative social and psychological problems.

Data of Sociological Research conducted for preparing NHDR 2002

The education index that is one of the components of the HDI, is comprises the literacy level of adults and the educational coverage of children from 7 to 25. The literacy index has been prepared from the data of the recent national Census. Starting in 1990 the literacy index is 0,987. (Currently 1.3% of those over 7 years old are illiterate, and among them 51.4% are elderly people, 16.7% are children between 7 and 10 years old who live in poor families and cannot go to school, and 32% are children with a mental and physical deficiency and handicaps from childhood.) A change in the education index occurs as a result of another component – the education coverage index. Education coverage of the age groups of 7 to 25 years old includes secondary and high school. The analysis of education coverage by altitude is mainly related to the development of secondary schooling.

Despite the fact that education coverage for children in the elementary school and incomplete secondary school is very high, the education coverage index for children in high school is only half as much as for earlier grades. In comparison to 1999, the index significantly decreased, especially among boys (Table 2.23).

Table 2.21

Education coverage index in elementary, secondary and high schools
(in percentage with respective age groups)

	1999	2000	2001
<i>in elementary school (1-4 grades)¹</i>			
All	97,7	97,2	96,6
Boys	98,6	98,6	97,9
Girls	96,8	95,8	95,3
<i>in secondary schools (5-9 grades)²</i>			
All	82,8	94,9	93,6
Boys	82,0	95,1	93,5
Girls	83,7	94,6	93,7
<i>in high schools (10-11 grades)³</i>			
All	75,6	47,0	48,9
Boys	70,5	43,4	45,6
Girls	80,8	50,6	52,3

¹ (1-4 grades) – 7-10 years old

² (5-9 grades) - 11-15 years old

³ (10-11 grades) - 16-17 years old

Source: National Statistics Committee of the Kyrgyz Republic

The highest percentage of children attending school is in the 11-15 years old age group (Table 2.24). It shows that in the country the number of children enrolled in elementary school and the number of people who finish high school or receive full secondary education is decreasing. It is also important to note that number of children that go to school in the high-mountain zones is higher than that of other zones, especially in the elementary schools, although the level of poverty in this area is higher. Perhaps lower indicators can be explained because children in the valleys and plains can easily find work and many of them do not go to school at all. They have to earn a living. Seasonal work for children in high-mountain zones and regular skipping of classes influences the quality of their education that is not recorded in the statistical data.

Table 2.22

Education coverage in school education by zones
as percentage of respective age

	Age groups			
	Total of 7 - 17 years old	7-10	11-15	16-17
High-mountain zones	94,8	96,6	98,5	76,7
Mid-mountain zones	93,3	92,4	97,3	83,9
Low-mountain zones	91,9	92,8	98,3	73,3

Source: National Statistics Committee of the Kyrgyz Republic

The Human Development Index for high-mountain zones significantly differs from that of valley zones. This difference is not related to life expectancy. The index of achieved education influences it somewhat, and this is natural as fewer higher education institutions are located in the mountain zones, and as a result education coverage for youth is lower. However the main factor that

Box 2.6

Gender development in Kyrgyzstan

Along with other states that joined the Beijing Platform of Action, Kyrgyzstan took on responsibility of the development and empowerment of women in all areas of the state life, particularly, in political, social, economic, and cultural spheres, guaranteeing this empowerment by relative legislation. At present there already exists a sufficient legal basis where human rights and freedoms are recognized regardless the gender factor.

Conclusions of the *Aialzat* National Program at the International Conference “Kyrgyzstani Women at the Edge of Centuries” in April 2001 indicated that there have been a number of significant positive changes in such areas as the constitutional development mechanism on women’s empowerment, improvement of the national legislature in terms of women’s rights, in the sphere of education, health care, elimination of all forms of violence toward women, support of girls and the development of the economic potential of women, including rural women.

However, certain factors have been noticed to impede the process of women’s empowerment and the achievement of gender balance. These are insufficient stability of the institutional mechanism, lack of continuity regarding its personnel, incomplete financing of the *Aialzat* National Program (30% of the sum requested), increasing poverty and unemployment of women, lack of gender approaches in politics and mass consciousness, undeveloped training system of women leaders, ignoring of gender methodology, monitoring and political analysis assessment systems.

influences the difference is the discrepancy in income. The average level of GDP to PPP, which is the basis for calculating the income index, in the high-mountain zones is lower by USD 887 per annum than that of the valley rayons.

Gender Development Index

The traditional Gender Development Index (GDI) that shows how the processes of increasing the opportunities for men and women differ, has big discrepancies with the HDI in Kyrgyzstan. Gender balance in Kyrgyzstan is favorable, which is shown by the discrepancy between GEM and HDI – 1.2%. Nevertheless, there are several positions where gender differences are substantial and require special attention.

Table 2.23

Gender Development Index by zones

GDI	1996	2000	2001
Kyrgyz Republic	0,685	0,715	0,717
High-mountain zones	0,670	0,685	0,685
Mid-mountain zones	0,666	0,725	0,730
Low-mountain zones	0,687	0,711	0,716

Source: National Statistics Committee of the Kyrgyz Republic

Firstly is the component of the index that relates to income. The difference between the salary of men and women is still large. In the country generally women's salaries constitute only 63% of men's salaries. This number proves negative dynamics in this index and that last year's increase from 64% in 1999 to 68% in 2002 is not the beginning of sustainable development. The difference in salaries of men and women continues to increase in the high-mountain zones, but the rate of increase varies. The largest fall since 1996 is in the middle-mountain zones, where it decreased by 14% and the difference of salaries constitutes 43%. The fall in the low-mountain zones and high-mountain zones is 10% and 7%, respectively.

Box 2.7

Employment among men and women by profession is substantially different. The higher the position, the lower the number of women incumbents. For example, in mining companies, women mainly occupy low-quality positions (44.9% of these positions), and the number in high quality is 19.2%. High employment rates among women are in engineering and technical positions, although this kind of job requires a substantial workload. Along with this, the number of women in low-paid occupations, which do not require special education, is very high.

Study of the progress in implementation of the gender policy in mining industry in Kyrgyzstan. Association "Diamond"- Kyrgyz State Medical Institute: Report on the Results of the Sociological Research Results. – Bishkek, 2002.

Another alarming tendency that can be extracted from the analysis of the GDI components, is the consistent decrease of number of educated boys 7-24. This tendency has been registered in the high-mountain zones, but the number of boys in the high-mountain zones is lower than the number of world for 4%, although it is 2% for the whole country. Perhaps boys are earlier and more frequently involved in working to provide a part of the family income, especially in poor families, which these numbers indicate. It is alarming is that this way of fighting poverty, by increasing the number of working children of school age, is increasing.

The GEI analysis is complimented by the analysis of another standard index, reflecting the gender balance situation – Gender Empowerment Index. This index significantly increased in 2000. In 2001 the index lowered, although the long-term dynamics of the index is still positive (table 2.26). The index for high-mountain zones attracts special attention; it has increased by 23% since 1996, in comparison to 5% for the whole country. This growth is caused mainly by representation of women in legislative bodies and administrative positions. Perhaps such an increase in the activism, influence, and authority among women is a result, not only of the natural tendencies, but also the directed activities of various programs in the high-mountain zones aimed at overcoming the gender imbalance.

Table 2.24

Gender Empowerment Index by zones

GEM	1996	2000	2001
Kyrgyz Republic	0,453	0,489	0,478
High-mountain zones	0,366	0,463	0,450
Mid-mountain zones	0,453	0,489	0,478
Low-mountain zones	0,487	0,462	0,475

Source: National Statistics Committee of the Kyrgyz Republic

Indices that reflect the human potential development processes in general reflect certain territorial imbalance by altitudinal zones. It is important to note that, although the HDI in the high-mountain zones is the lowest, some important indices, such as education coverage among youth or representation of women in government structures, are higher in the high-mountain zones than in other zones. At the same time life expectancy is the lowest in the middle-mountain zones that have the highest HDI. Other indices, related to gender balance, are low for the middle-mountain zones as well. Perhaps many of the problems of this zone have been kept hidden due to its positive statistical data. In reality the living conditions in the middle-mountain zones are close to that of the high-mountain zones, and special programs for development and support are being implemented in these zones. It is important to emphasize that the situation in the zones deserves special attention. Of course the most favorable situation, in terms of human potential development, is in the low-mountain zones because towns and cities, infrastructure, and financial resources are concentrated there. Overcoming territorial imbalance is the biggest problem that requires an immediate solution in Kyrgyzstan.

CHAPTER 4. GOVERNANCE IN THE INTERESTS OF MOUNTANOUS TERRITORIES SUSTAINABLE DEVELOPMENT

In the course of the pragmatic implementation of local self-governance reform, started with the building of constitutional fundamentals and based on the President's decree of 18 August 1994, the foundation for the development of new institutions of power at local government level was created. Within this period more than 50 presidential decrees and orders and about 30 Government enactments, besides other standard legislative acts, on the decentralization of state governance and the development of local governance have been adopted. In 1996 it became an important stage of the reform when central government initiated the process of reforming the system of territorial development, and the new institutes of local self-governance - *ayil keneshes* and *ayil okmotus* - were formed, clearly reflecting the aspiration of the state towards democratization and the creation of a balanced system of territorial governance.

In 2001 the process of all settlement (villages and towns) transferals to local self-government structures was completed. There are 487 local government bodies in villages and towns in the Republic. The Association of Towns and the Association of Self-Governed Villages and Settlements were established and consolidated into the Congress of Local Communities of the Kyrgyz Republic, and they are meant to voice and protect the interests of local communities.

An analysis of the situation and the reforms undertaken clearly indicate that problems of the further process of state governance decentralization and local self-governance development remain unsolved due to:

- imperfection of the legal base,
- slow implementation of the state governance decentralization process, and insufficient state support rendered to local government bodies;
- inefficient mechanisms of financial and economic regulation;
- lack of knowledge on modern technologies of administration and underdeveloped methods of social mobilization and participatory techniques;
- ineffective partnerships;
- unprofessional municipal employees.

Decentralization is a complex process to be implemented in steps, taking into consideration local conditions, the country's political priorities and the capacities of state financing. Up to 2010 the policy measures are meant to concentrate in the following directions:

- (a) delegation of authorities and functions to local bodies of state government - town councils and *ayil okmotus* – from ministries and government structures;
- (b) elimination of some local representative offices of state bodies in order to reduce the state apparatus;
- (c) introduction of the principles of local government elections in order to increase accountability and effectiveness;
- (d) reformation of the administrative territorial division of the country;
- (e) creation of a system of local

government staff training and retraining; (f) undertaking of appropriate measures to strengthen the role of local budgets on the basis of a transparent and effective control system.

The main direction for the further improvement of the legal base is to increase the incentive of local self-government bodies' to promote the growth of local communities' economic potential. To promote the proper functioning of the legal mechanisms of effective governance at local level, it is necessary to consider the local population's ownership and adequately evaluate the mountain resources, production, goods and services, protect traditional values and culture, and to preserve the vulnerable eco-systems. This can be achieved only through legal protection of mountainous residents' intellectual property rights.

Box 4.1

On the delegation of authorities from the Center to high mountainous territories

In December 2001 the Legislative Assembly of the Jogorku Kenesh adopted the Law "On local self-governance and local state administrations" that allowed a stabilization of the situation regarding the regulation of municipal government structures' activities.

However a number of complex questions requiring deeper analysis arise in the course of discussing the sustainable development of high mountainous territories, the search for new organizational forms and the self-organization of the population within the framework of the decentralization process.

During the process of decentralization the issue of seeking new ways and defining options of social and economic development of mountainous regions is extremely complex, as are the problem of solving them. The problem of delegating **volumes and expediency** of authorities from the center to the high-mountainous territories and their level of readiness to cope with those functions differ, as was noted above, not only between regions and rayons, but also between different villages located in the mountainous regions.

Meanwhile the mountainous territory specifics are not taken into consideration in national strategies and development programs; there are no comprehensive integral approaches to the issue of sustainable development of mountainous regions in national programs. Branch-wise approaches are employed in the programs of regional planning and development; a mechanism of trying to harmonize the interests of different branches of economy with the interests of mountainous territories. Branch-wise approaches to planning and development still dominate, and this does not allow evaluation of the complexity and real value of products manufactured in the mountains. Private investments in that zone are at a very low level.

The Government of the Kyrgyz Republic has undertaken a number of measures to support the mountainous regions. For the period from 1998 to 2001 seven Programs on social and economic development of regions, including the Program of state support to high-mountainous regions and backlands of the Kyrgyz Republic, were adopted. With the aim of reducing the gap in **regional development**, the development programs of Naryn, Talas and Issyk-Kul oblasts, Lailyak and Batken rayons of Batken oblast, Chatkal rayon of Jalal-Abad oblast were prepared for the

period from 1998 to 2001. Long-term concepts of development for the period from 1999 to 2009 were also prepared.

Within those programs a considerable amount of work was implemented on irrigation systems rehabilitation, geological surveys, procurement of medicines and equipment to hospitals, schools, cultural sites, hospitals, irrigation systems, roads restoration, equipping schools with computers, textbooks, furniture; reconstruction of power supply network and expansion of communication networks. Additional working places were created in industry and agriculture, the unemployed trained and retrained, and some NGOs rendered social assistance to the needy. The Programs were financed from the state budget; KFC, ADB and the World Bank; the funds of other micro credit systems and organizations were used. Financing of 2,590.8 million som was allocated for the implementation of all development programs. However *as these Programs were designed on the assumption of needs, but without consideration for real resource provision, it ended up with the major part of planned measures incomplete.*

The problem of the backwardness and underdevelopment of the territories is aggravated by a lack of specific information and national statistical data that could considerably assist local people; politicians and government specialists to better understand the specifics of development trends and resource potential of mountainous territories. A lot of statistical data cannot be obtained below rayon level, and this results in poor evaluation and forecasting of the situation of the territories related to the various administrative units. **Also, it seems impossible to support and develop local programs designed to resolve vital problems of the mountainous population.**

The development of the mountainous territories is still conditioned by the character of central government bodies' interaction with local governments, support of policies and the expansion of the rights of local communities in the sphere of financial and economic activities. Legal frameworks are regulated by the Law on Local Self-Governance and Local State Administrations that lays the foundation for the emergence of a new type of a manager combining qualities of a community leader and an administrator. The appointment of such managers by election to local keneshes and providing them with the authorities to create the necessary conditions for further democratization and exercising of civil constitutional rights to governing the municipal bodies whilst overcoming the lack of credibility of authorities and the consolidation of all structures of society is required.

Efficiency of governance at the level of local authorities can be divided conditionally according to the following two criteria:

- by the degree of infrastructure development and the level of the population's social protection (administrative governance - defined by clause 43 of the Law on Local Self-Governance and Local State Administrations);
- by the ability of the managers to find the necessary consensus and involve the population in solving the problems of their territory (social governance, introduction of organizational technologies and social mobilization mechanisms - stipulated in clauses 47 and 48 of the Law on Local Self-Governance and Local State Administrations).

It is worth noting that solving the issues of administrative governance for the officials in the mountainous territories is especially problematic due to a lack of relevant budget legislation and considerable scarcity of financing. Today this problem cannot be solved at the level of local self-government; it is in the adequacy of state policies

for fiscal decentralization that, if implemented effectively, would result in a fully-fledged formation of the basis for the effective administration of territories.

Local authorities badly need to master the organizational resource and its introduction. The lack of this resource affects the productivity of managerial activities. This sphere of institutional building has turned out to be the most conservative and least exposed to external influence.

The surveys conducted revealed that in the Osh oblast only 3 % of respondents have memberships of public organizations, such as councils of aksakals and youth, councils of women and aksakals' trials. Naryn residents' activities are greater and they are more active (14 % of respondents). New credit unions, self-help group associations and National cultural centers have been formed. The residents of mountainous territories in the Osh and Naryn oblasts expressed potential readiness to join NGOs and public organizations, and to participate in the process of governance three times as much as in the Chuy oblast - the majority perceive themselves as doers; only a few expressed the wish to become managers). The main reasons for this resource underdevelopment are the lack of organizational skills and knowledge and the reluctance to accept the responsibility.

Meanwhile decentralized governance cannot be considered to be the final result if it is not used as a means for creating a more open and transparent system based on joint decision-making. Giving people a free hand to participate in the process of managing their own business and the system of local self-governance (both at institutional and community levels) allows a rapid response to the population's needs and priorities.

Local authorities should demonstrate interest in joint activities in such situations and stimulate grassroots level initiatives. The example that can be cited here is the initiative of governing bodies and civil society under the activities of the UNDP Local Governance Program, widespread in 603 local funds and 447 ayil okmotus. The activities began with formation of community organizations, training sessions on savings funds, drafting and developing economic projects, explaining the mechanisms of loan repayment guaranteeing, control and transparency of funds and the provision of coverage of the most progressive and successful projects in mass media. The main goal of the program is human development within territories, solving the problems of the nascent private sector and encouraging entrepreneurship in high-mountainous regions.

This is very important as, according to the survey results, the majority of respondents still consider the local governments instrumental in solving their main problems, not taking into consideration "expectations" from the Government. They continue to consider the following as the main "subjects" of governance: ayil okmotu heads (41-53 %); republican government bodies, the Government, ministries (33-49 %); rayon heads (15-19 %)

For comparison, in surveys conducted earlier, 65 % of respondents¹ expressed the same level of trust in local executive organs - ayil okmotus.

Box 4.2

Priority of the major problems according to the residents of mountainous villages

Naryn oblast

- a lack of access to safe drinking water - 59,3%.
- disconnections of electricity - 48,7%
- delays in receiving pensions and allowances/benefits - 44,7%
- unemployment - 32,6%
- rise in prices and shortage of cheap foodstuff - 29,3%

Osh oblast

- unemployment - 54,3%.
- delays in receiving pensions and allowances/benefits - 42,3%
- rise in prices and shortage of cheap foodstuff - 35,5%
- disconnections of electricity - 29,7%,
- poverty growth – 25,1%

Chuy oblast (for comparison)

- shortage of cash - 50%.
- disconnections of electricity - 48,1%
- delays in receiving pensions and allowances/benefits - 45,3%
- rise in prices and shortage of cheap foodstuff 41,1%
- a lack of access to safe drinking water/problems with water supply (33,0%)

Data of the sociological survey conducted by NHDR 2002 Team

The priority of problems in mountains and valleys is defined based on different factors. The problems of the low-mountain regions residents (Issyk-ata rayon), relate more to development opportunities. As for the residents of the high-mountainous regions, the problem of survival is the most vital, and this is aggravated by traditionally high expectations of the Government and authorities. Whilst conducting the survey it became obvious that they do not realize that solving some of the problems depends on their own efforts. Answering the question about who was responsible for solving problems, 40-50 % of respondents named the ayil okmotus. It should be noted that now local authorities also have constraints in resolving most of the problems.

According to the research undertaken by the NHDR team, the respondents said that the ayil kenesh did not play a significant role as an institute of power (in Chuy – 3 %, in Naryn – 2 %, in Osh – 0 %). People trust and rely on the executive power, underestimating representative power because they have not yet realized in full measure their own representation and their role in governing their territory. This proves the fact that the process of democratic institution reformation is slow, and that the viewpoints of various sections of society are not articulated and expressed properly.

Out of the “sore” problems discovered and the real capability to resolve them by local government bodies, it could be assessed how the population treats ayil okmotus. In an assessment of ayil okmotus in the mountainous regions respondents put “bad level of performance” first - in the Naryn

¹ *Kyrgyzstan 2002: Voter's View. – Bishkek, 2000, p.9*

oblast – 44,3 %, in the Osh oblast – 45,4 %. A very small %age of the mountainous regions' residents evaluated the work of ayil okmotus as "very good" - in the Naryn oblast – 0,4 %, in the Osh oblast – 0,3 %. As for the mountainous regions in the foothills, the %age of positive remarks is higher – 7,5 % in the Issyk-Ata rayon of the Chuy oblast. This is probably related to the fact that the local authorities now are more concerned with implementing current economic targets and not only strategic and public affairs.

In respect of an ayil okmotu head as a representative of power, there is a discrepancy – on the one hand he is a significant figure; on the other hand, there is a definite skeptical view as to his ability to solve the population's problems; and this opinion is expressed by 15 % of the mountainous regions residents. The same number of respondents considers it useless to seek assistance. On average, 43 to 44 % of mountainous population and 58 % of all residents consider that there is no necessity to apply for assistance to ayil okmotus, thus demonstrating either more independence or the availability of other methods to satisfy their needs.

Box 4.3

The reasons of appealing to ayil okmotus

The most common reasons to appeal to ayil okmotus for all surveyed regions are: to request a landplot, to seek information on various issues and to request the provision of material assistance. In contrast to the people residing in the foothills' areas the residents of mountainous regions apply to ayil okmotus with requests to solve problems with social allowances (in Naryn – 7,5%, in Osh – 18,3 %, in Chuy – 3,5 %); with requests for loans and credits disbursements to start their own businesses (in Naryn – 6,7 %; in Osh – 11,0 %; in Chuy – 3,5 %); with requests to be provided with equipment and transport (in Naryn – 19,2; in Osh – 11,0; in Chuy – 3,5 %) .

Data of the sociological survey conducted by NHDR 2002 Team

An analysis of the problems revealed and the existing division of authorities at the levels of government in operation shows that ayil okmotus continue implementing mainly administrative duties within the framework of a vertical structure of power. However their resources and potential are limited, and this constricts the spectrum of work to, in the first instance, the function of planning and development of their territories. The sanitary maintenance of villages and the provision of services in the form of issuing certificates and tax collection are the most routinely implemented.

In this connection the response of ayil okmotus to villagers' requests is of interest. Most complaints that instead of results one receives an official refusal, or no response at all or a response to a request is delayed, come from the residents of the Chuy oblast – 44%. The proportion of residents of the mountainous regions of the Osh oblast expecting such a situation is 29%. The chance to get a clear reply with precise deadlines and a responsible person in charge of the request comes from 33 % of respondents residing in the mountainous regions, and 39 % of the respondents living in the foothills areas. At the same time the cases where it was necessary to give bribes were single instances in all surveyed territories. However this could be related to the fact that in bribery cases people could not

correspond to the notion of giving bribes in kind (cattle, foodstuff etc). Moreover it was obvious that some of the respondents were afraid of providing honest answers to this question.

The situation relates to the population's attitude to elections of local self-governments held in January 2002. The key factor for the effective implementation of authority delegation and managerial functions at local level is the staffing of local governments. Delegation of authorities to local government imposes obligations on local government heads, which increases or weakens the effectiveness of policies of reforming and decentralizing state administration considerably.

The key feature of these elections was the democratic, deliberate elections of local government heads from a group of candidates, and as far as they were held in aiyls, villages, and towns of rayon subordination, where all the residents know each other personally. Considering the candidatures of all nominees, they deliberately elected persons whom they trusted and gave credence to. In some respect the local elections are regarded as a panacea, a universal remedy for solving the problems of their territories development.

At the same time, due to isolation, kindred relations influence the situation in the mountainous regions. Almost all local people are related to each other and know the candidates very well. As a result, in the process of forming divisional election committees, it was difficult to avoid the inclusion of kindred relations and other human interests. This is explained by the fact that no experienced managers were elected in many places, but just good people able to build relationships with the population and without organizational and managerial skills and not experienced in managing and governing people.

Unfortunately during the process of approval of the Law on Introducing changes and additions to the Elections Code, deputies narrowed the definition of "close relatives" described in the project, by adding only parents, spouses, children and native brothers and sisters. But there are many other close relatives that were excluded from this definition – grandfathers, grandmothers, and grandchildren. And the last elections clearly indicated that it was necessary to return to the notion laid in the Draft Law on Introducing changes and additions to the election Code, to avoid violations by members of election committees.

Central Elections Committee Bulletin, 2002

The overwhelming majority of the survey respondents noted that the recent elections of aiyl okmotu heads were held in a transparent and open way (in Chuy oblast – 59 %, in Naryn – 82 %, in Osh – 88 %), although behavioral response in answering this question sometimes showed deviation from the theme or a wish to stop discussing these questions.

Along with definitely increasing the involvement of the population into the process of a leader or a manager election, the question of his competency and managerial experience is still open.

Live voices

How can one call it ayil okmotu, if its head does not know the basics of agricultural technologies, how to repair a school, how to improve the infrastructure... And it is not right to appoint akims if they do not have special training, or practical experience. It should obligatory for him to possess experience, be at least a deputy akim... Otherwise he would mess up and ruin everything, not only

Therefore, the necessity of educating and boosting the professional level for managers at this level is evident.

Live voices

- I really need to study. In particular, I am interested in agriculture and land processing, and in the principles of its division. Before I was a doctor. When I came to work here I realized that I needed information on the Republic, on the NIS and special knowledge in economics and business, especially in micro and macroeconomics.
- I badly need knowledge. Especially on how to work with NGOs, to compile business plans and to prepare proposals for grants because we do not receive information on sources of financing from international organizations.
- We all need knowledge of legal issues. Especially as how to interpret laws, to read them and learn how to apply them in practice... This is the most important issue. It is necessary to learn how to work with NGOs, and different communities as they now determine the moral climate.
- Especially I need skills in veterinary science and agriculture...

Ayil Okmotus Heads

In most of the villages, there was a suggestion that this structure initiates the process of development in the village, and according to survey respondents, *they need new managerial skills and knowledge of organizational techniques.*

Live voices

- To manage is to get good results, to take into consideration the interests of all the layers of society, to control how the elderly and disabled get their pensions and allowances; how doctors treat patients, how teachers teach students. Direct contacts with people are needed.
- A good manager should know the people's psychology, and his own functions and the elements of management and laws according to which any government structures function. He should cooperate with higher organs and subordinate organizations; and be able to make decisions. For all this he needs a will, knowledge and what is most important – he must know the people's needs and interests.
- In administration and managerial functions education is not that important. The main thing is life experience when a person is ready to face challenges. The ability to see the essence of the problem and have a vision of the final goal. A good manager is able to organize people. I like it in particular, when my subordinates suggest decisions, defend their own opinions and, are ready to work independently...

Representatives of oblast, rayon and local level of authority in Naryn oblast

This is necessary for a better use of resources, understanding of changes in people's motivations and skills, perception of stable methods of resource use and avoiding possible losses. Success in this process is determined by the right of the local population to influence decision-making with regard to resources and property, taking into account the long-term interests of citizens. The current situation in the mountainous regions makes the local people "disabled" in legal terms. The decisions are being made in the capital. Consequently the strengthening of decentralized power taking decisions influencing the process will be the most important instrument in sustainable development of mountainous regions.

The question of property rights to mountains resources is now closely related to the question of property rights to land. So far the situation in defining the property rights of individuals or local communities to mountain pastures, forests, hunting resources etc, has not yet been distinctly quantified in legislation.

The initial steps in implementing these rights of the local population are the efforts of central and regional level government authorities in introducing community-administered forestry on non-arable lands that are suitable for forestry. This practice is being built on a negotiable basis between new forms of interactions with civil society and local communities. 679 communities have been created in the zones of mountainous forestry; and 118272,8 hectares of forestlands were assigned on a contractual basis, a fact that reflects a positive tendency in community-based organizations' creation and development among mountainous population.

All the above-mentioned problems in local governments' activities require deep attention and urgent determination of high mountainous territories owing to their specific features, making them priority-driven in the policies of administrative and financial reforms in the process of decentralization.

Financial Viability of Local Governance Bodies

The main instruments of social, financial, economic investment and industrial policy at any level are the budget and a stable economic base providing the processes of **governing that demand its liability**.

The Government of the Kyrgyz Republic has chosen fiscal decentralization as a mechanism of public administration to support private sector growth and poverty alleviation efforts. This implies that the fiscal decentralization system should be representative to have real power at the local level and be independent from central authority in having efficient control over resources.

The main obstacle is the extreme lack of financial capacities of local budgets. Besides, the structural changes introduced into the system of financial management by town councils and *ayil okmotus* in forming corresponding departments did not influence the processes of local budgets formation. Another reason is probably in the issue of administering local taxes and dues. The authorities of tax inspectors in dealing with revenues received by local government bodies are not affirmed in legislation and contradict the Tax Code; their actions are supported by rayon government structures that are accountable to corresponding departments of tax inspections.

In this connection, the Ministry of finance of the Kyrgyz Republic has initiated the development of a draft law “On financial bases of local governance in the Kyrgyz Republic”. An important component of the draft law is the issue of budgets relations.

Box 4.5

LEGAL BASE FOR BUDGET PROCESSES

In 2001 the following legal acts were adopted:

- Resolution of the Government № 563 "On delegation of certain state authorities to local governance bodies";
- Resolution of the Government of the Kyrgyz Republic № 672 «On measures for local governance development in the Kyrgyz Republic”, which approved the Regulation “On financial and economic department of municipal administration” (towns subordinate to rayon administrations) and *ayil okmotu* (village administrations)”.

These resolutions became a favorable precondition for effective economic activities of local government bodies and rational planning and forecasting. However the most part of the job is still ahead. Other legal acts, such as the Budget Code of the Kyrgyz Republic, the Law “On introducing property tax”, the Law “On financial and economic bases of local governance” and others, must be adopted.

The programs of support rendered to fiscal decentralization and local governance are in the process of implementation in the Republic. Thus the United Nations Development Program in cooperation with the Danish Trust Fund, USAID, TACIS and other organizations support the Decentralization Program that is being implemented by the Congress of Local Communities, and is oriented towards the development of local governments in pilot *ayil okmotus*. The Decentralization Program supports policy reforms at the national level for the creation of a favorable environment in which local self-governance could successfully develop.

However there are objective factors in the negative appraisal of ayil okmotus performance that impede ayil okmotus capacity in administering territories and fulfilling their respective functions and authorities.

The analysis of local governments' budget projections given below reveals common problems and current trends of the local governments' budgeting process that will require new approaches immediately. Existing contradictions of division and combination of authorities, their free interpretation by managers, and the financial dependability on the center are the main reasons of administration weaknesses and the absence of vision of development perspectives.

The procedures of the budgeting process stipulated by the legislation of the Republic (drafting, considering, approving and implementing) are the same at all levels of power and correspond to the principle from top to bottom. This practice of local government budgets projecting excludes the high mountainous rayons from the process and does not stipulate practical opportunities to somehow influence it.

To date, the major source of local government income have been projected out of the proceeds of deductions from government taxes and various types of financial assistance. On the whole, the analysis of ayil okmotus' budgets for 2000 has revealed that only 52 ayil okmotus, or 11 % of the whole number can cover their expenses from their own revenues. Thus in 89 % of ayil okmotus the sources of revenues do not cover expenses and, consequently, subsidies from the central budget in subventions and grants are necessary¹².

A large share of local government revenue is received through the main and the only source – the land. With the aim of increasing land tax revenues and widening the authorities of local self-governance representative organs, Jogorku Kenesh introduced a number of additional changes to the Tax Code of the Kyrgyz Republic. The land tax rate for irrigated arable land was increased by 40 %, and for the land with perennial plants by 50 %. Also rayon keneshes were granted the right to fix differentiated rates of the unified agricultural tax for using agricultural lands within the average of 30 % of the basic rate set in the rayon.

However, despite all these innovations, the increase in ayil okmotus revenues from land taxes leaves much to be desired. There are still acute problems in fixing the long-term standards for deductions. Legislation stipulates that the funds of local government bodies cannot be withdrawn to rayon and oblast budgets and must be used by local keneshes for social and economic development of ayil okmotus or towns. Unfortunately these norms are not being followed in reality. Higher territorial bodies revise the deduction norms on an annual basis without considering economic incentives for local government bodies. The problem is not in tax administration as such, but in the fact that the growth of the land tax share in the structure of tax revenues is small. Tax collection volumes are

¹² *Financial Viability of Local Self-Governance Bodies // Materials prepared for the conference on Decentralization Policies held by UNDP, the World Bank and Soros Foundation. – Dushanbe, May 2002*

small despite the fact that in the structure of budget revenues of local government bodies land tax accounts for 60 to 75%, and higher.

Revenues earned from the rent of land plots in the fund of agricultural land redistribution are perhaps the only source for many local governance bodies to spend on developing the local infrastructure and meeting their obligations to the population. Different rental income is earned in different regions. However the problem is to guarantee the receipt of those funds through the treasury system and cooperation with rayon governance bodies, and this considerably undermines the effectiveness of governance and the implementation of the area development programs. It is important to take into account that flows of budgetary funds are strictly regulated and are spent mainly on operating expenses that do not include capital investments. Besides, revision and redistribution of these funds by territorial levels would not allow stimulation of the local government bodies.

Due to scanty revenues from local taxes and duties, local government bodies prefer to finance their expenditures on regional development at the expense of **stable** deductions from republican taxes. At the same time a number of local taxes and duties set by the Tax Code of the Kyrgyz Republic are ineffective and outdated. In this connection, it is worth considering canceling some of them.

Despite the fact that local keneshes have a quite well developed legal basis to exercise their authorities in local budget development, approval, and fulfillment control; there are some limitations and contradictions in the legislation. For instance, clause 205 of the Tax Code of the KR states that “introduction of local taxes and duties that are not stipulated in this Law is prohibited”. The clause limits the influence by local keneshes on increase in revenues of municipal bodies, and their initiatives are often restricted to the legally levied 16 local taxes. As a result the heads of local administrations bring themselves to take the popular, but illegal, measures of levying ungrounded duties on objects in the area, establishing various funds etc.

Additional revenue sources of local governance budgets could be resources obtained through a more effective and rational use of communal property, short-term loans, stimulating grants, and improvement of mechanisms for providing evening-up grants.

Box 4.6

Property rights of local government bodies

The right to communal property has been reflected in the Constitution of the KR in amendments of the 1996 and 1998 Land Code and Civil Code, decrees of the President of the KR, and the new law of the KR “On local governance and local state administration” of January 12, 2002. The law stipulates that communal property and financial resources from its use are the economic and financial basis for the activities of local government bodies.

The financial sources are assignation of lands, pastures, local objects of forestry, water and road infrastructure to local communities, tax and other revenues coming into local budgets, credit resources, subsidies, subventions and external investments, payments from users of natural resources, revenues from service provision and others. Under the Law “On communal property in the Kyrgyz Republic” of March 15, 2002, local government bodies are allowed to purchase, control and **command the property to carry out the functions** of local governance (clause 2).

Policy of local loan disbursement

Short-term loans to local government bodies. Under the Law “On main principles of the budgetary law in the Kyrgyz Republic”, in the case of temporary needs for the renewal of financial funds during a budget year, local governance bodies can borrow funds from the

submitted to the Ministry of Finance through rayon and oblast administrations. The Ministry, in turn, proposes its level of financing of local budgets based on the resources at its disposal. Depending on approval results, the Ministry of finance informs oblasts on the budget projections. Oblast administrations, in turn, inform rayons, and rayons submit the information to aiyl okmotu. In the chain described above, the aiyl okmotus do not have any practical influence on resource allocation.

Current budgeting practices prove that oblast and rayon budgets have become a so-called filter that impedes the flow of transfers and grants to budgets of local government bodies; besides, budgetary funds are re-allocated at the local level not in their interests.

Box 4. 7

Local budgets

The structure of local budget revenues and expenditures in 1998-2000 (in Som)

	1998	1999	2000
<i>Total revenues</i>			
Tax revenues and duties	926 784	1 113 066	1 402 726
Non-tax revenues	208 665	285 467	357 936
Grants	1 308 652	1 422 335	1 220 762
Total revenues	2507498	2896746	3499101
<i>Total expenditures</i>			
Operating expenses	2 428 007	2 816 334	3 371 039
Capital expenses	88 077	86 856	181 243
Total expenditures	2 516 084	2 903 190	3 552 282
Balance	-8 586	-6 444	-53 181

As the table shows, there was a budget deficit, i.e. total expenditure exceeded total revenue. For the last several years, local budgets have undergone only minor changes. They mainly finance operating expenses whose specific gravity is more than 90%.

Based on the data of the Ministry of finance of the Kyrgyz Republic

If you take into account the role of that local government bodies play in expenses on health and education, budgets of aiyl okmotu are the least flexible, and a considerable share of budget expenses is spent on covering the protected items of revenues, compensations, and utilities. Other expenses constitute an insignificant amount. Thus arises the question concerning the necessity of introducing the model of local budgeting on a program basis that would allow local government bodies to allocate funds according to the needs of their priority programs. Local budgets should be planned through the long-term perspective; and its management and local government bodies should determine the role, goals and tasks of each institution and organization. The process should be focused on important issues of local policy – those are the demand for funds and their impact on the future of the local communities.

Considering that 90% of the aiyl okmotu budgets consist of expenses on health, education, pensions, and allowances, it is obvious that improvement in this process should also include reforming the structure of interdepartmental financial and budgetary relationships. And, vice versa, any reform of these relationships must undoubtedly allow for demands of health and education sectors.

One more aspect of extreme importance to regional development, especially in high-mountain areas, is the allocation of state investments. There was no balance revealed in the sphere of financial and budgetary decentralization as well.³ For instance, the Chuy oblast and Bishkek city have received the largest state investments per capita, though they are the most well off areas (less than 30% of the population are poor). The Talas oblast, where the poverty level exceeds 60%, received only 4% more of state investments than Chuy and Bishkek combined. Naryn, the poorest oblast, received only a little more than a half of investments per capita than Chuy and Bishkek. Thus, the most well off country capital and the Chuy oblast received almost 27 times more investments per capita than Batken, and almost 6 times more than Osh.

The above facts prove that despite the active legislation and policy of enhancing local governance, the Kyrgyz model of the financial and budgetary allocation system is too centralized. This impedes the development of regions and negatively influences the situation in mountain areas.

That is why the priority in the policy of financial and budgetary decentralization is to strengthen local budgets, especially in high-mountain areas. Fiscal decentralization must be oriented toward creating a tighter interrelation between the governance system and demands of the population, toward guaranteeing the opportunity to define the parameters and structure of the budget expenses independently. There is a real capacity for that in the country already. A precondition for this statement is the availability of the political will of the state (established in 2001, the Ministry of local self-governance and regional development affairs in the Government of the Kyrgyz Republic), legislation (Law of the KR “On local self-governance and local state administration”, Resolution of the Government of the KR etc., determining financial and economic bases of local self-governance), and adequate resources, both human and natural.

Thus the main factors impeding the governance in the interests of sustainable development of mountain areas are imperfect legislation, ineffective decentralization reform in mountain areas, indistinct determination of the governance process participants’ positions and interests and lack of effective partner relationships between them. Local self-governance development in the Republic often adds up to a division of authorities among different levels of the state governance system, redistribution of revenues among budgets at different levels, sometimes without considering interests of the population in mountain areas. This process is aggravated by a high centralization of the Kyrgyz financial and budgetary system, financial non-sustainability of local budgets, high level of subsidies from the republican budget (80-95%), non-systematic relations among budgets and the lack of adequate mechanisms to delegate fiscal authorities to the self-governance system.

The concepts of decentralization and local self-governance are relatively new to the Kyrgyz Republic. For a long time people have been dealing with central authorities and system of centralized planning and governance. As a result many things in the process of forming a stable base of authority at the local level requires revising, exploring and reforming, as each stage of developing the process of decentralization requires relevant correction due to its complexity and the

large number of factors influencing it. Particularly this refers to everyday life and the prospects for future of mountain areas.

Do mountain territories have future?

Transition period problems do affect people living in the investigated villages. Their willingness to satisfy daily needs is one of factors determining their vision of the family and village future. As we supposed, tiredness and despair are characteristic of a certain part of the mountain population: from 16.3% in Osh to 17.6% in Naryn.

Despite the complexity of the socio-economic situation in the mountain regions, residents of Osh and Naryn oblasts rarely plan to leave their places of residence. This is probably due to the rural population mentality and a lower level of socio-economic needs. Only small percentage of the respondents regards cities as their future places of residence. For instance only 1.7% of the Osh oblast residents hold prospects of migrating to the city of Osh, and 0.6% more to Bishkek. Interviews and discussions testify to the change in the migration pattern. During the last 2-3 years migrants have been observed to re-migrate (return) to their permanent places of residence. We cannot say whether this is widely spread in all high mountain rayons. This issue requires thorough research. But the number of re-migrants in the Naryn oblast is somewhat higher than in Osh oblast.

Our ancestors lived here, and we keep on living here, and, I hope, our children will also live here. I think our children would live well here, if there was some help. They would never leave. And they can work. For example they can grow potatoes. And there has already appeared some kind of friendly competition between them: Why did this guy gather a rich harvest? Are there any reasons I cannot gather the same harvest for? What do I have to do for it? But again they have to sell their harvest very cheap and are not able to receive a good profit. It is very difficult for them to get on their feet.

***Ozgorush village resident,
At-Bashy rayon, Naryn oblast***

And our future doesn't look bad. There is a hope that we will live well. Cattle breeding is the only way to do it. We have to work hard. If we do not work hard we will not achieve anything. There are abundant remote pastures. We have to breed and multiply livestock and develop yak breeding. That is why we will build farms, enclosures, and small houses in the pastures. We will start making flour stores for winter in the middle of June. I have left an order for 100-sacks for our villagers in the rayon center. And here we will pay pensions, wages, and allowances with flour. As roads are closed in winter, we prepare all the goods we need on the spot. If only the government could assist us a little bit, we – local residents and aiyl okmoty - will together solve all other problems.

Oruk-Tam village aiyl-bashchy,

Naryn rayon, Naryn oblast

The desire to leave native villages is not dictated by the necessity to survive but to provide a good future for children, and the elder generation sees its predestination in material assistance aimed at providing a future for their children.

We live only for our children. I want them to be well educated: to know a foreign language, the Russian language, and computers. This is my dream. And he will not be able to get such education here.

***Kok-Art village teacher,
Kara-Kuldja rayon, Osh oblast***

12.8% of Naryn region residents and 5.2 % of Osh region residents see their future in the development of cattle breeding and land cultivation. It is linked to the land reform that is being carried out in the country, and it gives the government some opportunities to use the emerging positive trends in the process of working out new approaches to forming mountain-territory related policies. 17.4% of Osh region residents (and only 1.4% in Naryn region) think that they will be able to achieve their goals if they are issued credits. 13.5% of Naryn residents think that their future will depend on the availability of a stable wage and constant employment as the basis for financial stability both of their families and the village as a whole. That is why they are more insistent on developing such kinds of activity in their villages as tourism, mineral resource use, processing production, etc. **If compared to Osh region residents**. Also 12% of Naryn region residents are more willing to acquire new knowledge in such areas as private business organization, farming and housekeeping, efficient credit use. There is no clear link between getting new knowledge and a reliable future in the Osh and Chuy (regions).

Regardless of the fact that during the last 2 to 3 years mountain villages have started to understand that the future of every family and the whole village depends on themselves, the sustainable social development process of a person exceeds feasibility of one individual. That is why today it is vital, as never before, to create a special corporate spirit that would promote voluntary union people for the purpose of solving their problems inside a local community, business and area of residence, that would established as the result of joint activities and would be based on mutual trust, responsibility and self-discipline. The management of this process would be possible due to social forms and technologies that are based on the principles of collaboration, and the use of information technologies and computer networks and provide new possibilities for broadening public participation in decision making process, increase efficiency of various public services. that holds an essential meaning for decentralization of the government power.

DO THE MOUNTAINOUS AREAS HAVE ANY FUTURE?

The problems of the transition period are reflected, in full, in the moods of people in the studied villages. One of the factors determining people's expectations concerning the future of their families and villages is their orientation towards meeting the barest needs. For a certain share of the population in villages in the mountain areas, as expected, the state of tiredness and despair is typical – from 16.3% in Osh to 17.6% in Naryn.

Nevertheless, despite the difficult social and economic situation in mountain areas, the people in the Osh and Naryn oblasts do not plan to leave their villages. The mentality of the rural population in mountain areas and a lower level of social and economic needs is perhaps is the reason. Only a small %age of those interviewed consider capital cities as their future places to live in. For instance, only 1.7% of citizens of the Osh oblast are planning to move to Osh city and 0.6% are planning to go to Bishkek city. Interviews indicated changes in trends of the migration processes. For the last 2-3 years there has been a trend of re-emigration (coming back) for permanent residence. It is hard to identify precisely the scale of this process in all of the mountain areas. This issue requires a special research. Nevertheless in the Naryn oblast the number of re-emigrants is somewhat higher than in Osh.

Our ancestors lived here, we are living here, too, and I hope that our children won't leave this place. I think that if our children get some help they will be well off. They wouldn't go anywhere.

They know how to work, for instance how to grow potatoes. They even compete in a good sense: why did that guy collect a good harvest? Why can't I collect one as good as his? What else should I do? But yet they sell the harvest at low prices and cannot earn high profits. It is very hard for them to succeed.

A woman from the Ozgorush village in the Atbashy rayon, Naryn oblast

Our future is bright. We have hopes of a better life. The only way is livestock breeding. We need to work. No labor – no food. There are good distant pastures. We have to breed and grow livestock, develop yak breeding. That's why in the pastures we are going to build farms, cattle-pens, small houses. From the middle of July we will store flour for the winter. In the rayon I submitted an application for 100 bags of flour for our villagers. Here we will pay out pensions, allowances and salaries with flour. Roads are closed in winter, so we keep the most important commodities here, in our village. It would be great if the government helped us at least a bit. We could solve other problems on our own, together with aiyl okmotu.

Head of the Oruk-Tam village in the Naryn rayon, Naryn oblast

Often the willingness to move outside native villages is caused by concerns about the future of children rather than for seeking the means of subsistence. Elderly people mainly consider material assistance and providing for the future of their children as their aim.

We live for the sake of our children. I want them to be educated – to speak foreign languages, Russian, be literate in computers. This is what I dream of. And here they don't have an opportunity to get a good education.

A schoolteacher in the village of Kok-Art, Ala-Kuu aiyl okmotu

12.8% of Naryn oblast residents and 5.2% of the population in the Osh oblast consider promoting cattle breeding and crop production as a precondition for prosperity. This is related to the land reform taking place in the country and provides an opportunity to the state to use the existing positive trends in developing new approaches to the policies of mountain areas management. 17.4% of Osh residents and only 1.4% of those in Naryn see receiving loans as a way to achieve their goals. 13.5% of Naryn inhabitants consider stable earnings and permanent workplace as a basis for financial sustainability of their families and their villages as a whole. That is why, unlike Osh residents, they suggest developing new kinds of activities, such as tourism, use of mineral springs, processing industries and others. Besides, 12% of the interviewed feel the need of additional knowledge in business administration, household and farm management effective use of loans. In Osh and Chuy no correlation between getting new skills and stable future was detected.

Over the last 2-3 years villagers in mountain areas have begun to understand that they are responsible for their own families and the village as a whole as the process of sustainable social development in mountain areas today exceed the capabilities of single individuals. That is why, at the moment, the people need a special corporate spirit that would guarantee voluntary uniting of the

people with the purpose of solving problems existing in local communities and businesses – the spirit that emerges as a result of joint activities and based on mutual trust, responsibility and self-discipline. Carrying out such activities requires social norms and technologies based on the principles of cooperation, in which the use of information technologies and computer networks would provide new ways to expand social involvement into decision-making process related to enhancing the effectiveness of various social services that is of immense importance to state authority decentralization.

Conclusion.

Kyrgyzstan is a small mountainous country building its statehood and searching for its own ways of development. It is obvious that since 2002 is the International Year of Mountains this National Report is devoted to the human potential development processes in the mountainous regions. This Report is one of the means that can help the government and society identify and solve the problems of the mountainous regions. This is the main purpose of the report.

The human potential development processes in the mountains have their own specifics and distinctive features. Thus the problems that are characteristic for the whole country are more acute in the mountainous regions. As a result the level of human development in high-mountainous regions is lower than elsewhere. This is, to some extent, a consequence of the mountain regions development policy that has been implemented for a prolonged period of time, i.e. mountainous regions have been considered as regions that require subsidies and compensations.

The difficulties of every day life in the mountains influence the human potential development in these regions and also many of the assets that exist in these regions are not in demand. Mountains are the wealth of Kyrgyzstan, one of the most important development resources and not only for the country but also for the Central Asian region as a whole. Diverse and **perspective** natural and human resources in the mountain regions of Kyrgyzstan are underused or used inefficiently.

Analysis of the human development and the areas of public life demonstrate that many of the existing problems can be solved through changes in the approach to governance. The mountainous regions, however, should start moving away from their dependent attitude and try to search independently for ways of overcoming regional inequality. In its turn, assistance given to the mountainous regions should demand a change in approach to the enactment of policies and programs that would help to implement investment principles and support far-sighted kinds of activities in the mountainous regions.

There should be a new look at the development of mountainous regions within the scale of the whole country in the process of forming state policies, as well as granting the territories right to define their own future at the local level. Using the existing international experience of mountainous countries, including the potential of the mountainous countries' representatives meeting at the Bishkek Global Mountain Summit, will allow the identification of the most effective ways to create programs for mountainous regions development. It is also evident that the issue of country's development and that of mountain regions are closely interconnected, and there are no separate solutions to either of them.

NHDR-2002 does not contain calculated solutions to the vital human development problems, but within the framework of the survey undertaken there are some recommendations that, according to the author of the report are paramount to finding solutions for the development of mountainous territories of Kyrgyzstan.

The strengthening of international cooperation is one of the basic factors of mountainous regions development. It is essential to create a database about the projects that are either being implemented or planned in mountainous countries in order to study, accumulate and exchange experience and information about the programs of sustainable development in mountainous territories. It is essential, both in terms of Kyrgyzstan's participation in international projects and, in order to work out new approaches to organization and establishing of effective management over the processes of mountainous territories development in the country itself.

Mountain territories should be included into the network of existing internal and inter-regional transport and information infrastructure in order to decrease the acuteness of the problem of isolation and lack of accessibility of the mountain territories.

For the further development of mountains regions it is essential to provide the inhabitants of mountainous villages with access to modern informational channels and communication systems. This factor not only influences the population's awareness and provides them with information, but also broadens the knowledge of the local communities' about the methods and ways of living in these territories, develops independence and encourages the use of local capacity and mastering of advanced management methods.

To legally draw up and ensure the development of the mountain territories it is necessary to improve the existing legislative base and, above all, to accelerate the discussion and approval of the law "On mountain areas of the Kyrgyz Republic".

The business support programs that contribute to the diversification of production and use of reserve resources will result in the development of a goods production industry of the mountain regions. Some of the most important directions should be the processing of agricultural products, implementing a marketing system and moving processing facilities closer to the agricultural raw materials resources. This will permit the creation of attractive jobs and the youth will stay in the mountain regions, thus stabilizing the demographic situation. The economic rise of the mountain territories is closely connected to the introduction of new agricultural technologies, including the development of selected pedigree cattle breeding.

A stable energy supply to the mountainous regions will be possible by using new economically effective and environmentally clean methods of energy production, the combination of traditional (energy of fast mountain rivers) and non-traditional (solar and wind energy, everyday and agricultural waste, etc.) energy resources.

Sustainable mountainous regions development should be monitored on regional, national and sub-regional levels in close cooperation with the countries that border Kyrgyzstan's mountainous regions. Development criteria and national indicators of sustainable mountainous regions development will allow the adequate registration of favorable changes.

It is necessary to study the issue of updating the existing statistical data of the current system and, in particular, to introduce integral indicators that describe not only oblast and rayon as an

administrative unit, but also take into account specifics of the high-, mid- and low-mountain regions. This will allow the socio-economic regional disproportions to be ascertained and the creation of a map of the rayon's, region's and the whole country's resource potential, to classify the problematic (depressive, underdeveloped etc) areas, etc.

NHDR –2002, as all previous reports, is devoted to the human development processes in the Kyrgyz Republic, which means that it is aimed at those who are interested in the future of the country. The concept of human development in Kyrgyzstan is constantly evolving and correcting due to the fact that this national report is not prepared as a formal document and therefore indicates the most vital problems whilst allowing a look at the potential opportunities for changes in the situation from another angle. This is why it is in demand in different social and career groups. This report continues the good tradition of our country where it is prepared as a document that can be not only a source of valuable information, but also can be an effective instrument of current situation analysis and decision making.

HIV/AIDS problems and the mountain areas of Kyrgyzstan

AIDS is one of the most acute problems, threatening human development today. An AIDS epidemic hit the Kyrgyz Republic in 2001, when the number of officially registered HIV-infected people increased 10.6 times in the whole country, and 44 times in the Osh oblast, which is considered to be the most infected (figure 1). 93 cases of HIV-infection have been registered during 7 months of 2002. Seven out of the HIV-infected people have already died, four of them had AIDS

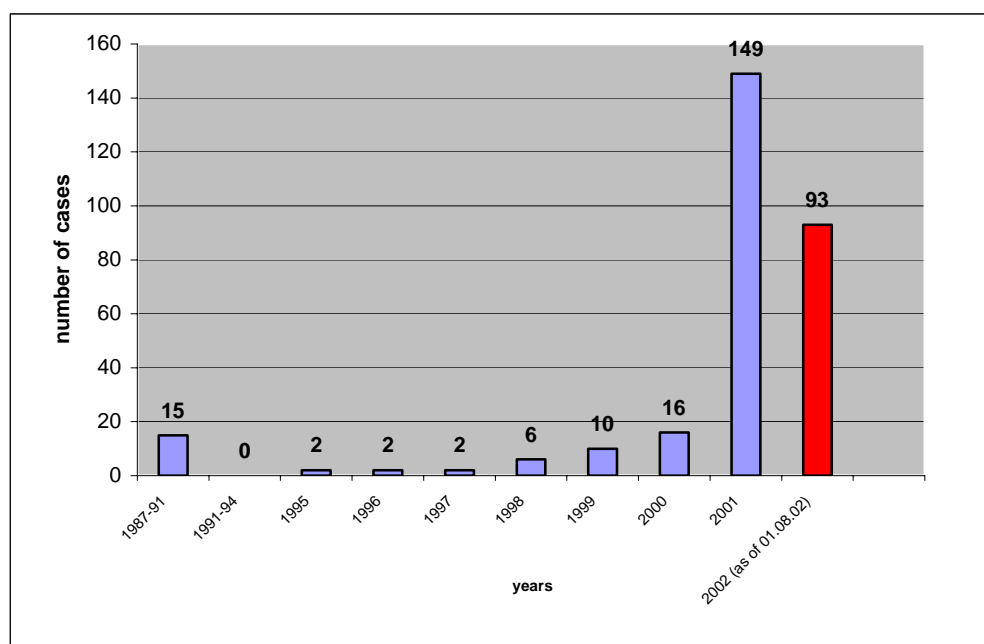


Figure 1. New registered cases of HIV-infection (by year, AIDS Republican Association official data)

The usage of non-sterile syringes and needles in drug injection is the main reason for HIV-infection. The intravenous drug addicts constitute the main infected group. The majority of them are males; accordingly 90% of HIV-infected people are males.

The spread of the HIV infection in Kyrgyzstan is uneven. The Osh region is considered to be the most infected as 62% of all HIV-infected citizens in Kyrgyzstan reside there. HIV-infection cases have already been identified and registered in villages and small towns. The first 2 cases were registered in the Alay mountain rayon of the Osh region. HIV-infection cases have not been officially registered in the Naryn, Talas and Issuk-Kul oblasts yet.

Despite the fact that HIV infection cases are registered solely in large cities and low-mountain regions close to the cities, mid- and high-mountain regions of the country may soon find themselves in a very difficult situation. There are two counteracting factors, which are considered to be risk factors in the context of the HIV/AIDS epidemic that make mountain communities specifically

vulnerable. These factors are the *isolation* of populated towns and villages and *population migration*.

The experience of the countries that have suffered significantly from the HIV-infection recently, shows that HIV mainly hits the communities suffering from the **lack of information, lack of protection means and lack of medical assistance**. The rural population faces these problems more often than the urban population and the population in the capital. Often there is only one road that connects a small mountain village with the rest of the world with the only bus (if any) driving on this road. The rural population may never get new information programs started in the capital. And it takes at least one day to get to the doctor. People with large sheep flocks trying to keep up with the vegetation season, move to high-mountain pastures where the only way of communication with the “world” might be such a device as radio. Any mountain rural community may become a hostage of isolation.

On the other hand migration processes have recently greatly increased in the country. The results of a special survey show that in every second family out of all the interviewed families (50.5%) two or three members have left the village. Almost every second person out of those who left the village tried to settle down in a new place. However more than one third of them (35.1% of all the oblasts including the Chui oblast – 86.4%) came back. Members of 34.8% of families regularly go shopping or selling, or seeing their relatives in other towns and villages. Most often they go to the nearest larger villages, to Bishkek and regional centers. They come from places that are not yet HIV-infected to places that are already HIV-infected. Then they return home.

First of all the most vulnerable group is comprised of those who go to earn money and people of “mobile professions” (such as long-distance drivers). Men coming to town turn to the services of sex-workers (every third client of street sex-workers in Bishkek is non-local); and some young women, having left their village, become involved in sex-work (49% of all the sex-workers in Bishkek are non-locals who came to Bishkek from villages in search for a better life; and 22% are inhabitants of small towns). *The possibility of infection is therefore much higher for both men and women away from home, but the possibility of getting help is less.* If they are infected, their husbands or wives, and other sexual partners will suffer too when they return to their native places.

Every sixth interviewed Naryn region resident (15.6%) has never heard about either HIV or AIDS, whereas in the Osh region this applies to 8,8 % of population and only 1,5 % in the Chui region. More than a third of the population who have heard about HIV/AIDS consider some inexistent ways of the virus spread. People are scared of the infection and therefore see the danger where it doesn't exist - “just in case.”

It is easier for the HIV infection to spread in the organism where another infection that was transmitted in the sexual way already exists. More than half of people who have heard about the infection transmitted in the sexual way do not have any idea what is it and also cannot identify its symptoms. A person can protect himself by following two rules: using a condom and using sterile instruments for injections. Approximately every second person in the Naryn and Osh regions knows about these two ways of protection, whereas in Chui region every third person knows about it. 21% of the interviewed Naryn and Osh region residents have never heard about condoms. In the Chui region this number is ten times less. More than half of sexually active men and women have never used a condom in their life. Almost every tenth village resident over the five past years has needed at least one visit and consultation from the venereologist. This indicator is twice as high in Naryn as in the Chui and Osh regions. Also many of the infected start with self- treatment, thus every tenth

member – 9,7 % of population - chose this way and every fourth in the Chui region. Only 12.9% infected visited expensive private clinics.

According to the survey, decision makers in different fields (healthcare, education, measures for protecting public order, local administrations and NGOs in the studied villages in the Chui, Naryn and Osh oblasts) had no idea about the number of HIV-infected people officially registered in each region. All the interviewed people in the villages of the Chui oblast, six out of ten in the Osh oblast and 13 out of 15 in the Naryn oblast, had difficulties giving an evaluation of the real HIV spread in their regions. The majority of the decision makers found out that they were completely ignorant about which population groups and towns had suffered from HIV the most.

Four out of five executive workers of the sectors concerned in the Chui and Naryn regions never had a chance to make decisions concerning the HIV prophylactic (preventive) measures. In Osh oblast the majority of such workers had the responsibility to conduct preventive work in some areas to insist strongly on organizing certain activities and report the results. This is because of increased attention to the region's situation because that is the most serious one regarding the spread of the HIV infection. However it demonstrates the readiness of all administrative sectors to act. The collaboration of the governmental sector, NGOs and international organizations in the Osh region is more highly developed if compared to the Chui and Naryn regions.

Nevertheless the majority of responsible individuals believe that HIV preventive programs are needed in their regions. Such programs are based on two main arguments. The first argument states that village residents are not protected in places where they go out. The second one says that young people practice unsafe sex.

HIV/AIDS can become a problem of mountain areas also. Lack of information, lack of protective means and inaccessibility to qualified medical assistance, ignorance of people responsible for the decision making processes in this field will influence the rate of epidemic spread. In order to provide effective measures to restrict the continuous spread of HIV infection in the country it is necessary to have appropriate local responses. These responses need to be supported by an agreed central policy. It is based on partnership between public and government organizations that are involved in preventive measure programs. The active participation of leaders at all levels, including religious figures, aksakal and makhallin councils (soviets), and aiyl okmottu (village administration) is necessary for the further successful promotion of the prophylactic programs. The understanding of the necessity for such a response in Kyrgyzstan, based on the actual understanding of the situation, is the main result of the last year. To develop a response is an important condition for making HIV/AIDS issue disappear forever from the National Human Development Report.

Annex 2

List of pilot villages where the social research was conducted

Rayon	Aiyl okmotu	Village	Altitude, <i>m above the sea level</i>	Number of population, people.
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<i>Naryn oblast</i>		150 households examined		
Kochkorski	Sary-Bulakski	Ak-Kyya	2400	90
		Sary-Bulak	2520	339
Narynski	Chet -Nurinski	Ak-Bulun	2220	277
		<i>Iyri-Suu</i>	2220	916
At-Bashynski	Taldy-Suuski	Oruk-Tam	2600	101
		Taldy-Suu	2390	1344
		Ozgoryush	2460	601
		Pervomaiskoye	2305	865
<i>Osh oblast</i>		176 households examined		
<i>Alaiski</i>	Taldy-Suuski	Archa-Bulak	3000	<i>360</i>
		Kek-Bulak	3050	<i>62</i>
		Taldy-Suu	3040	<i>1411</i>
Kara-Kuljinski	Alaikuuski	Kok-Art	2400	2525
	Kyzyl-Jarski	Kaiyn-Talaa	2180	1219
Chon-Alaiski	Chon-Alaiski	Kyzyl-Tuu	2500	295
		Kyzyl-Eshme	2560	1070
		Chak	2430	1479
<i>Chui oblast</i>		106 households examined		
Issyk-Atinski	Ak-Kudukski	Ak-Kuduk	550	<i>649</i>
		Tuzski	Kotovskoye	650	290
		Tuz	870	1920
		Dairbek	880	341

Annex 3

"Kyrgyzstan in statistics"

General Information On Kyrgyzstan		1993	1994	1995	1996	1997	1998	1999	2000
2001									
Area, thousands of km ²	199.9	199.9	199.9	199.9	199.9	199.9	199.9	199.9	199.9
Population density, people per km ²	25	23	23	23	23	23	24	24	25
Resident population as of the end of year,	4.9	4.5	4.5	4.6	4.7	4.7	4.8	4.9	4.9
millions of people ¹									
Children and teenagers, %	36.0	37.9	38.0	38.0	38.0	38.0	37.4	37.4	36.7

Female enrolment (% of admitted)	62	52	51	51	51	51	50	51
54								
Daily newspapers (copies per 100 people)	18	34	35	44	46	23	22	27
16 ¹								
Televisions (per 100 people)	17	16	14	12	11	12	10	9
7								
Real GDP per capita (PPP, USD \$)	2330	1890	1850	2101	2264	2299	2377	2521
2634								
GDP per capita (USD \$) ²	850	610	690	570 ²	470 ²	350	300	280
280								

¹Since 2001 all daily newspapers excluding Vecherniy Bishkek started being issued 1-3 time a week, thus they lost daily status. Changes in data related changes in calculation methods.

Profile Of Human Distress	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Poverty index (% of the population) *	45.4	...	57.3	43.5	42.9	54.9	55.3	52.0
47.6								
Official unemployment rate (%), total		0.2	0.7	2.9	4.3	3.1	3.1	2.9
3.0 3.2								
Youth unemployment (age 16-29), (% of	0.2	0.9	3.3	5.0	3.1	3.1	2.8	3.2
3.3 ¹⁾								
economically active population of the same								
age group)								
Female wages (as % of male wages)	...	...	73	73	71	72	64	68
63								
Consumer Price Index (December, % of	1029.9	162.1	132.1	134.8	113.0	116.8	139.9	109.6
103.7								
previous December)								
Nominal exchange rate of USD (average,	5.04	10.84	10.82	12.84	17.37	20.77	39.02	47.72
48.44								
for the period)								
Years of life lost due to premature death	23	20	21	24	24	20	20	19
19								
Injuries from road accidents	86	76	78	86	79	72	68	67
77								
(per 100 000 people)								
Reported cases of rape (per 100 000	28	31	26	28	24	20	21	23
24								
women aged between 15-59)								
Emissions of sulfur and nitrogen (kg NO ₂	11.7	7.4	7.3	7.5	6.4	6.8	5.7	4.0
2.7**								
and SO ₂ per capita)								
Emissions of carbon dioxide (kg NO ₂ and	2.9	2.1	1.6	0.8	0.7	0.7	0.5	0.6
0.6								
SO ₂ per capita)**								

* Findings of World Bank research on poverty; for 1995 - spring 1996 research data; for 1996-1999 - in fall of a respective year. Changes in the indicators for 1996-1998 occurred due to recalculation of the poverty line, which reflect changes in the structure of food expenditures. The need for these changes is related to the economic crisis of the 1998 (the crisis directly affected the consumption structure due to an increase in food expenditures and a corresponding decrease in other expenditures). Data for the year 2000 are based on the Households, Budget study of 300 households.

¹Stationary sources only are counted

² Youth aged between 16-34

Trend in Human Development	1993	1994	1995	1996	1997	1998	1999	2000	2001
Life expectancy at birth in years	67.3	66.0	66.0	66.6	66.9	67.1	67.0	68.5	
68.7									
Tertiary full-time equivalent gross enrolment		82	75	76	63	61	57	61	
59 59									
ratio (%)									
Real GDP per capita (PPP US \$)	2330	1890	1850	2101	2264	2299	2377	2521	
2634									
GDP per capita (US \$)	850	610	690	570 ¹	470 ¹	350	300	280	280
Total educational expenditure (as % of GDP)	4.8	6.3	7.1	5.4	5.2	5.2	4.4	3.7	
4.2									
Total health expenditure (as % of GDP)	3.0	3.9	4.3	3.4	3.5	3.2	2.6	2.2	
2.3									

¹Changes in data related to changes in calculation methods

Gender Gap (date for women as % of that of man)	1993	1994	1995	1996	1997	1998	1999	2000
Life expectancy	114	115	115	114	114	113	113	112
112								
Population	104	103	103	103	103	103	102	102
Adult illiteracy*	...	271	...	...	...	...	271	...
...								

Gross enrolment at all levels (%)	106	104	104	103	101	102	102	101
102								
Secondary enrolment	103	89	102	93	97	99	97	101
Secondary graduates	102	112	108	102	101	124	104	121
Full-time university or equivalent enrolment	122		124	162	157	120	115	127
112								
Natural and applied science enrolment			257	225	213	260	234	223
228	189							
Labor force	103	96	96	87	87	87	84	83
Employment in non-agricultural sector			81	82	96	83	85	79
75	74							
Unemployment	230	155	146	138	141	148	132	132
Wages	...	...	73	73	71	72	64	63

Status Of Women 2001	1993	1994	1995	1996	1997	1998	1999	2000
Life expectancy at birth in years 72.6	71.7	70.7	70.4	71.0	71.4	71.2	71.1	72.4
Average age at first marriage 23	21	21	21	22	22	22	22	22
Maternal mortality rate (per 100 000 live births) 45.5 43.8		44.5	42.7	44.3	31.5	62.7	33.6	42.3
Infant mortality rate (per 1000 births) 22.6 21.7		31.9	29.1	28.1	25.9	28.2	26.2	22.7
Child mortality rate (per 1000 births) 33.2 29.5		44.6	41.9	41.3	36.4	42.1	40.7	35.5
Secondary enrolment ratio (%) 63	70	71	72	71	72	69	51	69
Secondary graduates (as % of females 70 of normal graduated age)	70	69	65	63	61	65	63	44 ¹
Tertiary full-time enrolment (% of overall 53 recipients)	55	55	66	63	55	60	53	56
Tertiary natural and applied science enrolment (as % of female tertiary) 33 32		31	23	25	32	22	28	26
Women in labor force (as % of the total 45 labor force)	51	49	49	46	47	47	46	45
Administrators and managers (as % of women) 42	35	36	36	35	32	36	32	39
Parliament (% of seats occupied by women) 7	6	...	5	4	4	3	5	5

Demographic Profile	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total fertility rate	2.4	3.1	2.9	3.1	2.8	2.6	2.7	2.6	2.4
Fertility rate over time (as % of 1990)	67	67	86	81	86	78	72	75	72
Dependency rate (%)	70	70	70	70	70	70	68	66	66
Population 65 years age and older (%)	5.5	5.5	5.0	5.5	5.5	5.5	5.4	5.4	5.5
Life expectancy at age 60 in years:									
Men	15.3	14.4	14.4	14.4	14.9	14.9	14.9	15.6	15.8
Women	19.5	18.6	18.7	18.6	19.1	18.5	18.5	18.7	18.9
Total population of year end (millions)	4.9	4.9	4.5	4.6	4.6	4.7	4.8	4.8	4.9
Annual population growth rate (%)	0.8	-0.7	0.6	1.5	1.4	1.5	1.6	1.3	0.8

Alcohol consumption (liters per adult)		3.4	3.5	3.6	3.7	3.9	4.1	4.2
4.1 5.8 ³								
Tobacco consumption (kg per adult)	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5
0.6								
Population per doctor	302	308	306	297	313	319	330	355
Health services paid by public insurance (%)	26.0	10.5	7.9	5.4	6.1	5.4	6.0	6.4
6.9								
Public expenditure on health	11.2	14.8	13.6	14.1	14.6	13.2	12.1	11.5
11.3								
(as % of total public expenditure)								
Total expenditure on health (as % of GDP)	3.0	3.9	4.3	3.4	3.5	3.2	2.6	2.2
2.3								

³Diseases of blood circulation system and neoplasia.

² Increase is due to abrupt growth of the sick mainly among country male citizens aged between 20-29.³ Calculations are based on sale volume of the commodity. In 2001 price of vodka was abated to eliminate smuggling and to reduce illegal production. As a result all the accumulated savings were sold.

Educational Profile	1993	1994	1995	1996	1997	1998	1999	2000	2001
Enrolment ratio for all levels			61	61	60	65	71	71	69
71 71									
(% of population, aged 7 - 24)									
Full-time secondary graduates (%)	89	90	87	88	83	94	94	91	
94									
Full-time secondary technical graduates		31	35	38	33	34	31	26	
24 21									
(as % of total upper-secondary)									
Number of universities	18	22	32	39	43	41	39	45	48
Full-time tertiary enrolment (%)		65	75	75	63	61	57	61	59
59									
Tertiary natural and applied science enrolment			11	9	7	7	5	6	7
8 6									
(as % of total tertiary)									
Expenditure on tertiary education (as % of	9.0	10.6	8.2	13.6	15.7	19.2	16.1	14.7	
17.2									
total public expenditures for education) ¹									
Public expenditure on tertiary students		20.4	77.8	87.5	166.7	238.4	322.9 ¹		
319.9 ¹ 337.5 490.3									
(million som)									
Total expenditure on education (% of GDP)	4.8	6.3	7.1	5.4	5.2	5.2	4.4	3.7	
4.2									
Public expenditure on education (% of GDP)	4.2	6.1	6.6	5.2	4.9	4.9	4.1	3.5	
3.9									

¹ Data of 1993-1997 are changed due to converting into % of public expenditures for education (before - of total education expenditures including enterprises expenditures)

Human Capital Formation	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Total proportion of students at all educational level (% age 7-24)								
Total	66	62	63	64	66	69	69	71
Men	64	61	62	63	66	68	69	71
Women	68	63	64	65	66	70	71	72
Number of public organizations	500	552	661	821	1131	1437	2185	2936
4001								
(excluding political)								
Scientists and technicians (per 1000 people)	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.6
0.6								
R&D scientists and technicians	51	46	52	48	50	35	36	33
32								
(per 100 000 people)								
R&D expenditure (as % of GDP)	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1
Secondary graduates (% of population		50	49	45	45	58	59	61
43 ¹ 64								
of graduation age)								
Tertiary graduates (% of population	13	11	10	13	11	17	19	21
26								
of graduation age)								
Science, engineering and mathematics graduates (as % of total graduates)								
Total	32	34	28	27	32	26	21	18
Men	20	20	13	15	18	14	13	11
Women	12	14	12	12	14	12	9	7
Number of those with the higher education	9.4	10.8	10.8	10.8	10.8	10.8	10.5	10.5
10.5								
(% from the population aged 15 and older) ²								

¹Reduction is due to lower number of graduates of the 9-th grade (90,500 students in 1999/2000 compared to 35,300 in 2000/2001) as a result of the completion of an experiment of transition from 10-year education to 11-year

²The 1992, 1993 data - according to the 1989 National census, the data for 1994-1998 is given in accordance with socio-demographic survey of 1994, the 1999-2000 data is according to the First National census of 1999.

Employment	1993	1994	1995	1996	1997	1998	1999	2000	2001
Labor force (as % of total population)			38	39	39	39	39	39	39
39 39									
Percentage of the labor force in:									
Agricultural	39	42	47	47	48	49	52	53	53
Industry		21	19	17	15	14	13	12	10
10									
Services		40	39	36	38	38	38	36	37
37									
Future labor force replacement ratio		191	191	191	191	191	191	191	186
179									
Number of working hours per week		35	35	36	36	36	36	36	35
36									
(per person in manufacturing)									
Unemployment	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of officially unemployed (thousands of people)									
Total	2.9	12.6	50.4	77.2	54.6	55.9	54.7	58.3	60.5
Men	0.9	4.9	20.5	32.5	22.7	22.6	24.1	27.1	28.0
Women	2.0	7.7	29.9	44.7	31.9	33.3	30.6	31.2	32.5
Youth ¹⁾	0.9	5.0	20.3	33.1	20.3	20.6	19.8	23.2	32.2
Male youth ¹⁾	0.3	1.7	8.9	15.0	12.1	8.3	8.5	10.6	15.1
Female youth ¹⁾	0.6	3.3	11.4	18.1	8.2	12.3	11.3	12.6	17.1
Official unemployment rate (total - %),		0.2	0.7	2.9	4.3	3.1	3.1	2.9	3.0
3.2									
Total unemployed, including those actively seeking employment (thousands of people)		29.4	70.6	100.0	140.0	103.0	106.4	136.8	144.3
151.7									
Duration of official unemployment ²⁾ (as % of total)									
Up to 6 months		73	73	74	58	51	48	38	40
33									
From 6 to 12 months	23	19	17	25	24	30	32	30	38
More than 12 months	4	8	9	17	25	22	30	30	29
Ratio of unemployment rate (as % of total unemployment):									
Male	30	39	41	42	41	40	44	46	46
Female	70	61	59	58	59	60	56	54	54

¹ In 1992 age group of the youth composed 16-22 years and for the last years it has been 16-29 years

²For the 1992 data given in accordance with the number of working unemployed, for the last years - the registered unemployed

Military Expenditure and Resource	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Use Imbalances								
Military expenditure (as % of GDP)	0.7	0.9	1.6	1.3	1.6	1.4	1.7	1.7
1.3								
Military expenditure (as % of combined education and health expenditures)	10.6	9.2	14.8	16.1	19.3	18.6	27.1	31.7
23.2								
Natural Resources Balance Sheet	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Land area (thousands of km ²)	199.9	199.9	199.9	199.9	199.9	199.9	199.9	199.9
Population density (people per km ²)	23	23	23	23	23	24	24	25
25								
Arable land and permanent cropland	7	7	7	7	7	7	7	7
7								
(as % of total land area)								
Permanent grass lands (as % of total land area)		1	1	1	1	1	1	1
1 1								
Forest and wooded land	7	7	7	7	7	8	8	8
8								
(as % of total land area)								
Irrigated land (as % of total arable area)	65	64	64	65	65	66	66	66
66								
Internal renewable water resources per capita		2.7	2.6	2.7	2.4	2.5	2.5	2.5
2.4 2.4								

(1000 m ³ per annum)								
Annual fresh water withdrawals	95	94	95	87	77	70	61	67
73								
(as % of water resources per capita) (m ³)	2546	2425	2426	2070	1826	1744	1482	1638
1756								
Number of reserves and natural parks	5	7	7	8	11	11	11	12
14								

National Income Accounts	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Agricultural production (as % of GDP)		39.0	38.3	40.6	46.2	41.1	35.9	34.8
34.2 35.2								
Industrial (as % of GDP)	25.1	20.5	12.0	11.1	16.5	16.3	21.7	23.3
21.3								
Services (as % of GDP)	25.8	31.5	34.0	30.1	30.3	34.7	33.3	31.7
Consumption:								
private (as % of GDP)	75.7	78.4	75.0	82.1	68.9	88.3	77.6	65.7
Public (as % of GDP)	20.3	18.9	19.5	18.5	17.3	17.8	19.1	20.0
Gross domestic investment (as % of GDP)	11.6	9.0	18.4	25.2	21.7	15.5	18.0	20.0
16.4								
Gross domestic savings (as % of GDP)	12.5	6.7	9.3	3.4	14.3	-8.2	1.2	14.4
8.7								
Tax revenue (as % of GDP)	14.9	14.7	15.1	12.6	12.5	14.2	12.2	11.7
12.4								
Central government expenditure (as % of GDP)		22.9	23.4	28.6	22.2	21.8	21.4	19.1
17.3 16.6								
Export (as % of GDP)	33.5	33.8	29.5	30.7	38.3	35.2	42.2	41.8
Import (as % of GDP)	41.1	40.1	42.4	56.5	46.2	62.1	57.0	47.6

Trends of Economic Development	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Consumer price index	1029.9	162.1	132.1	134.8	113.0	116.8	139.9	109.6
(December, % of previous December)								103.7
Tax revenue (as % of GDP)	14.9	14.7	15.1	12.6	12.5	14.2	12.2	11.7
12.4								
Direct taxes, as % of total taxes	61.3	57.3	50.0	45.1	43.2	41.7	38.0	38.4
38.7								
Overall budget surplus/deficit (as % of GDP)	-7.1	-7.7	-11.5	-5.4	-5.2	-3.0	-2.5	- 2.0
0.4								
Broad money (M2)*, million soms of year end	706.4	1545.1	2754	3340.8	4188.2	4910.0	6574.5	
7367.5 8201.8								
Banking interest rate**	260.5	89.1	46	45.9	23.5	32.9	55.1	38.3
7.9								
Trade balance, million USD \$	-87.6	23.1	-113.4	-332.3	-105.5	-327.9	-145.9	-49.6
8.9								
State security emitted, million soms	33.6	271.9	200.7	366	733.5	888.5	351.1 ³	563.2
959.9								

*M2 - The broad money

**Accounting rate set by the National Bank of the Kyrgyz Republic that characterizes the minimum level of money value. In 2000 it reached 38,3% as result of stabilization o financial situation at the financial markets

³Decrease related to absence in 1999 of auctions for 12-month state treasury bonds and decrease in number of 6-month state treasury bonds

Weakening Social Structure	1993	1994	1995	1996	1997	1998	1999	2000	2001
Convicted people (per 100 000, age 14 and older)			500	478	580	569	627	571	535
617 525									
Convicted juveniles (as % of total prisoners)			8	6	7	6	6	6	5
6 6									
Premeditated murders (per 100 000 persons)	13	14	12	11	8	7	7	8	
7									
Suicides (per 100 000 people)									
Total		12	13	13	10	11	11	12	10
11									
Men (per 100.000 people)		20	22	21	17	18	18	19	17
20									
Women (per 100.000 people)	5	4	6	4	4	4	4	4	3
Reported cases of rape (per 100 000 women	28	31	26	28	24	20	21	23	
24									
aged between 15-59)									
Total number of crimes	42495	41155	41008	39623	37262	34287	39951	38620	39986
Drug-related crimes 2145		2544	2623	2922	3103	3295	3459	3539	3205
Economy-related crimes	2899	2324	2647	3207	3447	3412	3457	3155	3047
Crime detection rate	53.0	60.2	61.1	69.8	76.3	81.4	70.8	77.2	76.2
Number of emigrants, people 143619		71197	37302	27584	19538	15671	17818	27887	31633

Registered refugees as of the end of year, people	...	6360	13311	16707	15276	14560	10849
10609 9212							
Asylum applications received, people:	...	6360	7617	4813	3108	1290	664
655 380							
Of which asylum granted	...	...	3668	1013	704	372	1509 ¹
273							
Number of refugees removed during the year, ...	...	...	272	2444	1420	4083	1749
1670							
people							
Divorces (% of marriages contracted)	20	21	22	25	25	24	22
21							
Illegitimate births (%)	17	17	19	21	24	27	32
32							

Recognized as refugees, including applicants for refugee status during previous years

Wealth, Poverty and Social Investment	1993	1994	1995	1996	1997	1998	1999	2000
2001								
Real GDP per capita (PPP USD \$)	2330	1890	1850	2101	2264	2299	2377	2521
2634								
GDP per capita (USD \$)	850	610	690	570 ¹	470 ¹	350	280	280
Share of industrial GDP (%)	25.1	20.5	12	11.1	16.5	16.3	21.7	23.3
21.3								
Income share: ² ration of highest 20%	6.1	11.1	7.1	7.8	11.1	10.8	10.6	10.9
9.9								
to lowest 20%								
Social securities benefits expenditure		0.6	0.1	0.1	0.1	0.1	0.1	0.1
0.2 0.2								
(as % of GDP)								
Total education expenditures (as % of GDP)	4.8	6.3	7.1	5.4	5.2	5.2	4.4	3.7
4.2								
Total health expenditures (as % of GDP)	3	3.9	4.3	3.4	3.5	3.2	2.6	2.2
2.3								
Average income per capita (som)	47.7	141.3	189.6	243.7	332.2	411.2	557.3 ²	
716.2 ² 830.5								
Income in 20 % of the poorest households,	16.41	31.67	58.52	70.19	75.30	94.94	134.64	
162.59 216.95								
som per capita in the group								
Food expenditure (% of total household	53.9	49.3	49.9	49.2	48.3	44.8	45.3	44.4
41.5								
expenditure)								

¹Changes in data reflect changes in calculation methods² Data changed due to changed calculation methodology of cash income and expenses balance

Alleviation of Internal and External Isolation	1993	1994	1995	1996	1997	1998	1999
2000 2001							
Radio sets (per 100 people)	16	15	13	12	11	12	8
7							
Television sets (per 100 people)	17	16	14	12	11	12	9
7							
Annual cinema attendance (per person)	1.1	0.3	0.1	0.1	0.1	0.1	0.1
0.1							
Annual museum attendance (per person)	0.1	0.2	0.2	0.1	0.1	0.1	0.1
0.1							
Registered library users (%)	0.3	0.3	0.4	0.3	0.2	0.2	0.2
0.2							
Daily newspapers (copies per 100 people)	18	34	35	44	46	23	27
16 ¹							
Number of books published (per 100 000 people)	9	9	7	9	7	6	9
9 10							
Printing and writing paper consumed	19	19	5	5	5	5	...
...							
(metric tons per 100 people) ¹							
Letters posted (per capita)	3	3	2	1	1	1	1
1							
International telephone calls		7	7	7	6	7	8
9 10							
(number of calls per capita)							
Telephones (per 100 people)	8	8	8	8	8	8	8
8 ²							
Motor vehicles (per 100 people)	4	4	3	4	4	4	4
4							

¹Since 2001 all daily newspapers excluding Vecherniy Bishkek started being issued 1-3 times per week, i.e. lost daily status² 1994-1998: only the Aqyl JSC data³ Data for 2001 include cellular service

Energy Consumption	1993	1994	1995	1996	1997	1998	1999	2000	2001
---------------------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------

Commercial energy consumption: total 3.6 3.3 (billion kg of oil equivalent)		3.9	4.1	3.1	3.9	3.5	3.4	3.5	
Per capita (kg of oil equivalent) 664.8	858.5	896.7	673.4	827.4	734.5	713.3	715.7	731.8	
Commercial energy efficiency(energy consumption 276.5 215.1 in kg of oil equivalent per USD \$100 GDP)		236.6	367	207.2	213.9	196.3	209.4	284.1	
Annual changes in commercial energy - 8.1 consumption (%)	-24.1	3.5	-24.9	24.7	-10	-1.4	1.8	3.3	
Urbanization	1993	1994	1995	1996	1997	1998	1999	2000	2001
Population in the biggest cities - Bishkek 57 and Osh (as % of urban)	53	54	55	56	57	58	58	58	57
Population in the cities of more than 1 million - (as % of urban)	-	-	-	-	-	-	-	-	-
Major cities with the highest population density 6148 6156 (Bishkek), Population density per km²		5350	5420	5560	5720	5880	6090	6130	
Urban population (as % of total) 34.9	36.1	35.6	35.3	35.1	34.9	34.8	34.7	34.8	
Urban population annual growth (%) 1.1	-2.5	-0.6	0.8	0.9	1.0	1.5	0.8	1.0	
Environment Pollution and Protection	1993	1994	1995	1996	1997	1998	1999	2000	2001
Emission of sulfur and nitrogen (thousands 14¹ of metric tons of SO₂ and NO₂ per capita)	52	33	33	35	30	32	28	24	
Emission of sulfur and nitrogen 2.7 (kg of SO2 and NO2 per capita)	11.7	7.4	7.3	7.5	6.4	6.8	5.7	4.0	
Pesticide consumption (metric tons per 1000 people)	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2
Nuclear waste
Annual hazardous and special waste resulting 31.5 ² 31.6² from production (metric tons per km²)		1.8	1.0	2.4	3.1	31.4²	29.6²	30.4²	
Urban waste (kg per capita) ...	278	250	201	237	195	...	...	...
Waste recycling (as % of consumption):									
Paper and cardboard	...	0.3	0.3	0.27
Glass	...	0.06	0.06	0.063

The data is given according to the stationary sources.

A significant increase in the data occurred due to the start of Kuntor gold mining company's commercial operation

Annex 4

Technical Note. Calculation of Human Development Indexes

Calculation of HDI

The Human Development Index is meant to reflect the level of potential human development of a country from the point of view of three basic indicators: longevity, reflecting the overall health of the population, level of education, and standard of living. Longevity is measured by life expectancy at birth. Level of education is determined by a composite index measuring adult literacy¹³ and the percentage of total children and young adults enrolled in the educational system.¹⁴ Living standard is based on real per capita GDP in US dollars, adjusted to domestic prices (purchasing power parity -

¹³ People aged 15 years and older

¹⁴ People between the ages of 7-24

PPP). For each of these indexes a minimum and maximum level is established, based on which the relative level of a country's development can be calculated for each index falling somewhere between the minimum and maximum. The formula for HDI, not including the per capita GDP index, is as follows:

$$\text{Index} = \frac{(\text{Real value} - \text{minimum value})}{(\text{Maximum value} - \text{minimum value})}$$

Since 1999, as recommended by UNDP experts the per capita GDP Index was calculated using the formula based on the difference of natural logarithms is used:

$$\text{Index} = \frac{(\ln(\text{real value}) - \ln(\text{minimum value}))}{(\ln(\text{maximum value}) - \ln(\text{minimum value}))}$$

The Education Attainment Index is calculated based on the average adult literacy index and gross enrolment (combined share of those studying) with a weight of 2 and 1, respectively.

HDI is calculated as the average index of life expectancy, education levels and real per capita GDP. The initial data and interim index for calculation of the HDI for the Kyrgyz Republic (2001 r.)¹⁵ are listed in the following *Table*.

	Real value	<i>Minimum</i>	Maximum	<i>Index</i>
Life expectancy at birth (years)	68.7	25	85	0.728
Adult literacy (%)	98.7	0	100	0.987
Gross enrolment (%)	71.0	0	100	0.710
Education attainment				0.895
Per capita GDP (PPP US \$)	2634	10	40 000	0.546
Human Development Index				0.723

Thus, the preliminary HDI value for the Kyrgyz Republic in 2001 is 0.723.

Calculation of GDI

In calculating the Gender Development Index, the same data is used as for calculating the HDI. The only difference is that in determining GDI, average values for longevity, education and per capita income indices are adjusted in accordance with the difference for these indicators between men and women. The formula used to derive this value is: $(\sum(w_i x_i^{(1-\varepsilon)})^{(1-\varepsilon)})^{1/(1-\varepsilon)}$, in which the weight parameter $\varepsilon=2$, i.e. the average indicator for men and women adjusted according to the corresponding ratio of men and women in the general population.

This formula follows:

¹⁵ *Date for 2001 is preliminary*

$$\{[\text{Share of the female population} \times (\text{index for women})^{-1}] + [\text{Share of the male population} \times (\text{index for men})^{-1}]\}^{-1}$$

As a result, index values are calculated taking into account uniform distribution by gender.

Minimum and maximum adjustment values for men and women of (22.5; 27.5) and (82.5; 87.5), respectively, are used to calculate the life expectancy index by gender.

The calculation of the income index requires a number of additional operations. Proportional shares of male and female income are obtained using data on the average income of women and men and their relative share in the economically active population.¹⁶ The products of the respective proportional income shares and per capita GDP are the values of total female and male GDP.

Gender indices of GDP per capita are computed in the same way as in the HDI calculation. The value final GDI is an equally-weighted average of the three obtained sub-indices.

Initial data for calculating GDI, the values of primary GDI components, and final GDI values for 1996-2001 are provided in the following *Table*.

	1996	1997	1998	1999	2000	2001
Adjusted real GDP per capita, PPP US \$	2101	2264	2299	2374	2521	2634
<i>Percentage share of total population</i>						
Males	49.3	49.3	49.4	49.4	49.4	49.4
Females	50.7	50.7	50.6	50.6	50.6	50.6
<i>Life expectancy (years)</i>						
Males	62.3	62.6	63.1	63.1	64.9	65.0
Females	71	71.4	71.2	71.1	72.4	72.6
<i>Adult literacy rate, %</i>						
Males	98.6	98.6	98.6	99.3	99.3	99.3
Females	96.2	96.2	96.2	98.1	98.1	98.1
<i>Combined primary, secondary and tertiary gross enrolment ration, 7-24 years, %</i>						
Males	63	66	68	69	71	70
Females	65	66	70	70	71	72
<i>Percentage share of the economically active population</i>						
Males	53.6	53.4	53.4	54.1	54.7	54.6
Females	46.4	46.6	46.6	45.9	45.3	45.4
Ratio of female average wage to male wage, %	73	71	72	64	68	63
Equally distributed life expectancy index	0.693	0.699	0.702	0.701	0.727	0.730
Equally distributed educational attainment index	0.863	0.869	0.879	0.890	0.895	0.895
Equally distributed per capita GDP index	0.498	0.510	0.513	0.512	0.524	0.528
GDI	0.685	0.693	0.698	0.701	0.715	0.717

Calculation of GEM

¹⁶ A more thorough description of this calculation is provided in the Kyrgyzstan National Human Development Report for 1998.

The Gender Empowerment Index is calculated by using a variety of sub-indicators involving opportunities of women in political, administrative, professional and economic life.

The first two indicators reflect the percentage of men and women in administrative and managerial positions and in positions of specialized and technical staff. The third indicator represents the share of men and women working as deputies in legislative bodies at the national and regional levels. To determine the value for each of these first three sub-indicators, the GEM formula is applied, according to which the "equally distributed equivalent percentage" (EDEP) is derived for both genders together. The EDEP is divided in half. Then the average is calculated for the first two sub-indicators.

To determine relative economic potential of women, the income index is applied. It is calculated in the same way as is the GDI, except that the usual linear promotion index is used according to minimum and maximum values.

Lastly, the equally weighted average of the three sub-indexes, reflecting opportunities in administrative and professional, political, and economic sectors of society, are calculated.

The initial GEM data, values of main sub-indicators, and the final GEM values for the republic from 1996-2001 are provided in the following *Table*.

	1996	1997	1998	1999	2000	2001
Adjusted real GDP per capita, PPP US \$	2101	2264	2299	2374	2521	2634
Percentage share of total population						
Males	49.3	49.3	49.4	49.4	49.4	49.4
Females	50.7	50.7	50.6	50.6	50.6	50.6
Percentage share of legislative representation						
Males	89.9	89.9	89.9	88.7	85.2	86.8
Females	10.1	10.1	10.1	11.3	14.8	13.2
Percentage share of administrative and managerial positions						
Males	64.5	68.5	67.1	68.2	70.5	69.2
Females	35.5	31.5	32.9	31.8	29.5	30.8
Percentage share of professional and technical positions						
Males	55.7	56	58.3	58	56.0	55.8
Females	44.3	44	41.7	42	44.0	44.2
Percentage share of economically active population						
Males	53.6	53.4	53.4	54.1	54.7	54.6
Females	46.4	46.6	46.6	45.9	45.3	45.4
Ratio of female average wage to male wage, %	73	71	72	64	68	63
Parliamentary representation index	0.359	0.360	0.360	0.397	0.500	0.454
Administrative and managerial representation index	0.912	0.859	0.879	0.864	0.828	0.849
Professional and technical representation index	0.985	0.984	0.971	0.973	0.984	0.985
Combined administrative, managerial and professional, technical representation index	0.949	0.922	0.925	0.918	0.906	0.917
Equally distributed per capita GDP index	0.050	0.054	0.055	0.057	0.061	0.064
GEM	0.453	0.445	0.447	0.457	0.489	0.478

Calculation of HPI-1

To calculate the poverty index of a population for a developing country (HPI-1), the quantitatively defined measurements of deprivation in three of the most important elements of human life are considered: longevity, education, and standard of living. The first indicator is based on basic survival rates and is represented by the percentage of people expected to die before they reach the age of forty (P_1). The second indicator reflects the degree of isolation with regard to reading and communication abilities. It represents the percentage of adults who are illiterate (P_2). Deprivation, from the point of view of standard of living, is reflected in the composite index (P_3). This indicator is itself based on three other values: the percentage of the population without access to safe drinking water (P_{31}); percentage of people without access to health services (P_{32}); and percentage of fatally or severely malnourished children under the age of five (P_{33}).

Aggregated (P) is calculated as the average of these three sub-indicators. The HPI formula is written:

$$\text{HPI-1} = [1/3(P_1^3 + P_2^3 + P_3^3)]^{1/3}$$

Initial data and final value of HPI-1 in the Kyrgyz Republic for 1996-2001 are given in the *Table* above. Deprivation indicators in terms of standards of living are calculated on the basis of results of the Survey on Monitoring of Poverty in Kyrgyz Republic conducted by the National Statistic Committee.

	1996	1997	1998	1999	2000	2001
P_1	9.6	10.2	9.6	9.6	9.6	8.3
P_2	2.7	2.7	2.7	1.3	1.3	1.3
P_{31} ¹⁷	18.7	17.4	18.3	14.1	14.0	16.0
P_{32} ¹⁸	11.8	8.3	15.9	14.4	14.3	9.3
P_{33} ¹⁹	9.3	5.7	8.9	7.3	6.6	7.2
P_3	13.3	10.5	14.4	11.9	11.6	11.2
HPI-1	10.3	9.1	10.9	9.5	9.3	8.7

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⁵ Share of population using river, spring and canal water for drinking and cooking.

⁶ *Share of population not using full medical care due to its high cost or remoteness of medical care institutions*

⁷ 1-6 year old children malnutrition rate, %.

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