Human Capacity of Belarus: Economic Challenges and Social Responses

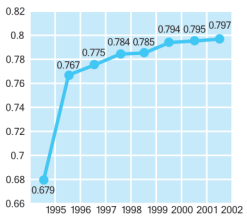
national human development report

2003

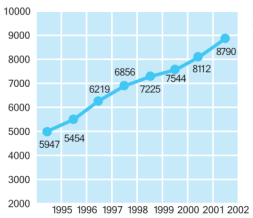
The image of the world's most popular puzzle, the Rubik's cube, on the cover of this report represents a symbolic look at modern Belarusian society. Its interrelated facets are a metaphor for the multidimensionality of human capacity comprising economy and politics, culture and education, healthcare and sports. Is there one facet that takes priority? Which one of them should be solved first? Is it possible to complete one side without negatively affecting the others? Obviously, all sides are interdependent and contribute to the overall harmony and equilibrium of societal development. Every twist of the cube brings us closer to the final solution.

Reforming and improving the Belarusian economy and society in general is an intricate, but solvable task, just like solving the cube itself. This cannot be successfully accomplished by concentrating on one side at a time. When we try to match the colors on one side, we run the risk of throwing the remaining ones into disorder. Every twist of the cube makes a difference.

The graphs depicted on the sides of the cube show the growth dynamics of the Human Development Index and Gross Domestic Product per capita in the Republic of Belarus.



Human Development Index



Gross Domestic Product per capital (USD)

The analysis and recommendations of the Report do not necessarily reflect the views either of the United Nations Development Programme or the Government of the Republic of Belarus. The Report is the result of a collaborative effort by a team of national consultants and the Team for the Preparation of the Report.

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Foreword

It gives me great pleasure to introduce the 7th National Human Development Report of Belarus – covering the period 2002-2003. This is the first National Report that bears my signature as UN Resident Coordinator/UNDP Resident Representative a.i. in Belarus.

Working in close cooperation with the UNDP office in Belarus the national team of authors has made every effort to ensure that the criteria established for UNDP corporate policy on National Human Development reports have been followed, and this has resulted in an important document that will receive increased political attention, encourage debate and mobilise different groups of Belarusian society.

This year's Report comes at a critical time for Belarus in terms of political, economic and social development measures that need to be addressed. I fully agree with the authors that significant changes in Belarus' economic system are necessary. For the past decade, Belarus has focused its efforts primarily on ensuring social stability in a challenging environment of transition from one economic model to one conditioned by today's globalised world. However, it is evident from the Report that the stabilisation achieved over the last few years cannot be sustained in the long run unless deeper market and institutional reforms together with innovative development approaches are put into place.

Coupled with economic and institutional transformations, the successful formation of civil society is viewed as a prime condition for achieving higher standards of human development in Belarus based on sustainable economic growth and the strengthening of social and political stability. It is also crucial, as the Report underscores, that social problems of Belarusian society be more forcefully addressed, including the need for further improvement in education, the health care system, the environment and combating antisocial capital.

It is my firm hope that while being a firm advocate for change the Report will also lead to targeted recommendations and policy decisions aimed at making the proposed human development agenda as effective as possible.

Kevin McGrath
UN Resident Coordinator / UNDP Resident Representative
in Belarus a.i.

Introduction on behalf of the Government of the Republic of Belarus

This National Human Development Report of Belarus 2003 – "Human Capacity of Belarus: Economic Challenges and Social Responses" – has been produced as part of the traditional co-operation with the United Nations Development Programme whose financial, organisational and substantive support helps to make this Report accessible for analysis and discussion in all strata of Belarusian society and the international community.

It is the view of the Government of Belarus that the content of this Report reflects the opinions solely of the Report Preparation Team and is not the official stance adopted by Belarus on the issues covered by its respective chapters and sections. The Government believes that this document will remain a subject for further discussion, during which a number of provisions contained therein may be adjusted and amended, given the official evaluation of the real development status and prospects of the Belarusian economy and society.

Andrey Kobyakov
Deputy Prime Minister of the Republic of Belarus – Minister of Economy

Acknowledgements

The preparation of the 2003 National Human Development Report involved a number of new institutions in addition to its usual participants. This Report could not have been prepared effectively without the co-ordination, support and invaluable insights of all the contributors.

THE TEAM OF CONTRIBUTORS AND NATIONAL CONSULTANTS

The United Nations Development Programme in the Republic of Belarus and the Team for the Preparation of the Report are grateful to the following national consultants and contributors who provided the sections for this Report: Anatoly Vladimirovich Bogdanovich, Alexander Victorovich Bondar, Ludmila Stepanovna Borovik, Vladimir Ivanovich Zinovsky, Vitaly Alexandrovich Kalinkovich, Ludmila Vasilievna Kozlovskaya, Evgeny Konstantinovich Medvedev, Irina Vasilievna Novikova, Victor Vladimirovich Pinigin, Stepan Stepanovich Polonik, Anatoly Vladimirovich Rubanov, Ivan Mikhailovich Udovenko, Vladimir Sergeevich Fateev, Olga Sergeevna Shimova, and Vladimir Nikolaevich Shimov.

The Ministry of Statistics and Analysis of the Republic of Belarus provided extremely useful material for the benefit of the Report's Statistical Commentary.

SCIENTIFIC REVIEW

This Report greatly benefited from the scientific review provided by Vladimir Nikolaevich Shimov.

ADVISORY PANEL

In 2003, the Report was prepared with active assistance, methodical and advisory support from an external advisory panel for the first time. It is made up of the following eminent Belarusian scientists, government officials, scholars and UNDP colleagues in Belarus who represent a wide range of views on the country's development problems: Ivan Ivanovich Belchik, Anatoly Vladimirovich Bogdanovich, Pavel Vladimirovich Daneiko, Leonid Fedorovich Zaiko (Chair of the Advisory Panel), Yury Gennadievich Kazhura (Secretary of the Panel), Evgeny Konstantinovich Medvedev, Vladimir Vladimirovich Pinigin, Stepan Konstantinovich Pisarevich, Stepan Stepanovich Polonik, Anatoly Vladimirovich Rubanov, Valentina Mikhailovna Stalyho, Ivan Mikhailovich Udovenko, Vladimir Sergeevich Fateev and Vladimir Nikolaevich Shimov.

Regular meetings and informal consultations with members of the panel helped to define the vision and structure of the Report, and to formulate conceptual suggestions regarding its substance, key findings and recommendations, as well as dissemination among the main target groups.

UNDP EXPERTS AND REVIEWERS

Members of UNDP itself provided invaluable inputs, substantive comments and suggestions during the writing of the Report. The Team for the Preparation of the Report is particularly grateful to the Human Development Advisor of UNDP's Regional Bureau for Central and Eastern Europe and Commonwealth of Independent States, Andrey Ivanov. The Report could not have been prepared and published without his total commitment, expert evaluation and editing at all stages. Dorothy Rosenberg from SURF, Susanne Milcher and Sandjar Tursaliev from the UNDP Regional Bureau in Bratislava provided editing services. An invaluable contribution to the succession in the form of national reports and useful recommendations for the co-ordination of work among all those involved in the Report was made by UNAIDS Advisor in Belarus, Alexey Ilnitski. The team also expresses its sincere appreciation to UN/UNDP Resident Coordinator a.i. in Belarus Kevin McGrath, former UN/UNDP Resident Coordinator Neil Buhne, as well as UNDP Head of Programmes Valentina Stalyho, Advisor to UN/UNDP Representative Vladimir Scherbov, UNDP Programme Officers Ludmila Istomina and Maxim Vergeichik.

EDITING, PRODUCTION AND TRANSLATION

The editing services for the Russian part of the Report were provided by Ludmila Nikolaevna Makeichik and for the English part – by Joshua David Beggs.

The Report was translated into English by Vitaly Velent.

The design and CD-version of the Report were prepared by Red Graphic Systems Belarus:

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The Report greatly benefited from the organisational and administrative support provided by the members of the United Nations Development Programme in Belarus.

The authors are also thankful to Mark Malloch Brown, UNDP's Administrator, and Kalman Mizsei, Assistant Administrator and UNDP Regional Director for Europe and CIS for full support and involvement throughout the preparation of the 2003 National Human Development Report of Belarus.

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Human Capacity of Belarus: Economic Challenges and Social Responses

The distinctive feature of the national human development report "Human Capacity of Belarus: Economic Challenges and Social Responses" compiled by a team of national experts is that it is coming out three years after the previous report "Belarus: Choices for the Future". The three-year pause has, on the one hand, provided an opportunity to look more realistically at the results of socio-economic transformations in the country since the beginning of the 1990's and, on the other hand, has allowed time to define the role and implications for Belarus of the globalising trends that increasingly characterise the world economy. It is next to impossible to find the most effective way for Belarus to integrate into the world economy and ensure the improvement of living standards, sustainable economic and environmental growth, optimal use of natural resources and production capacities, and perspective directions of institutional and structural reforms without taking these trends into due consideration.

That is exactly the reason why the report begins with a section dwelling upon the main causes of strong, turn-of-the-century globalisation, its key determining factors, and the interrelationship between globalisation and the country's geopolitical potential. This is the keynote, if you will, of this report explaining and defining the primary areas of human development in Belarus in the foreseeable future.

The formation of the country's human capacity heavily depends on the state of the economy, the extent to which it is integrated into global economic networks, and development trends. For economies in transition, to which Belarus definitely belongs, the most important human development factors are the depth and speed of market reforms. Within a specific historical and economic context, they are capable of becoming the definitive sources of the country's rapid development in general and its human capacity in particular.

On this conjunction, the report pays a great deal of attention to the analysis of modern economic conditions, the identification of key economic development problems and their causes, and rationale for the ways and means to address them. The original purpose was not to try to understate the extent of problems facing the economy, but rather to give a clear and impartial analysis of the current state of the economy, as well as the causes of the major negative processes within it.

The range of human development challenges in Belarus would be incomplete without an ecological component, especially in light of the consequences of the Chernobyl Nuclear Power Plant disaster, and the technical and technological capacity of the economy. Based on the analysis of main elements of the natural environment and parameters of industrial impact on ecosystems, the report makes the conclusion that there has been a reduction of negative anthropogenic influences on nature in the past decade.

At the same time, the report mentions that this improvement has not yet led to positive changes in public health, considered as an integrated indicator of environmental security in most of countries. In addition, the study convincingly shows that ecological threats have not disappeared, but in many cases have an ever-increasing potential due to the high deterioration of industrial fixed assets (over 70 percent). In the future, radical improvement of the country's ecosystem will depend on the efficiency of technical and technological renewal of production and rehabilitation of the contaminated areas. This topic logically unfolds further in the report, with the main focus placed on the following triad:

- development of environmentally unsound regions (problem regions);
- mitigation of Chernobyl disaster effects;
- rationale for the long-term sustainable development concept of problem regions.

Problem regions of Belarus include: areas contaminated with radionuclides as a result of the Chernobyl Nuclear Power Plant disaster (22-23 percent of the total area); Belarusian Polesie, which also contains the Soligorsk industrial region (32 percent); Belarusian Poozerie (24 percent); the Minsk Capital Circuit; several border districts; and areas in depression (agricultural areas and small towns). The report infers that, despite substantial efforts by the government and the allocation of financial resources, the task of stabilising these regions has been accomplished only partially, while some of the problems have become even more acute. The reasons for that are the sheer magnitude of the problems, a lack of knowledge about how to handle them and huge financial constraints. Radical improvement of the situation in the problem regions is possible only on the basis of macroeconomic stabilisation in the country and sustainable mid- and long-term economic growth. All this predetermined the specific state of human development in Belarus in the early 21st century, characterised by both a range of barriers and an impressive array of potential opportunities.

For economies in transition, to which Belarus definitely belongs, the most important human development factors are the depth and speed of market reforms

While preserving industrial potential and avoiding a sharp increase in poverty, the stabilisation achieved for the past years in the country moves to the foreground the desirability of deeper market and institutional reforms and an innovative development path

Although today the Republic of Belarus ranks 53rd in terms of the HDI, leading all of the CIS member states, it is still behind all of the Baltic States and neighbouring Poland. Human development barriers in our country requiring fast and appropriate responses include: the active depopulation processes that started in 1994, the growing share of elderly people in the nation's age structure; inadequate development of the health care system; low public awareness about healthy lifestyles; and poor government funding of education, in a number of cases combined with low quality of services offered, etc.

Thus, the first chapter of the report contains the full range of human development challenges Belarus is facing in the beginning of the 21st century. These are presented within the context of globalising trends in the world, revealing their nature and how they work. The second chapter analyses the range of resources available for addressing the human development crises, and provides rationale for the intensification of their use in the current situation. To this end, the chapter contains research into the content and peculiarities of the formation, use and development of natural, physical and social capital. Enhancement of the efficacy and competitiveness of the economy, as an integrated resource, is given a special role.

Because of the relative dearth of natural capital in the country, physical and social capital come to the fore. It is necessary to improve and enhance their efficiency as they play a special role for human development. At present, it is practically impossible to achieve substantial GDP growth using available fixed industrial assets because they are so old. Other limitations include a high level of deterioration and obsolescence of technologies and, as a result, poor competitiveness of products on internal and external markets.

The inevitable conclusion is that the country is in need of more capital investment. It is possible to scale up the flow of investment only through considerable improvement of the investment climate, rigorous institutional and structural reforms, enhancement of product competitiveness in terms of cost structure, and stabilisation of the legislative framework.

Humanity has seen many examples of countries and nations, seemingly endowed with plentiful resources for successful development, that failed to provide a fast and, most importantly, adequate response to contemporary challenges. We all know the inevitable outcomes of this – socio-economic development setbacks, falling living standards and social upheaval.

The only way to avoid this is by making and implementing prompt social decisions – rigid imperatives of the new times. Following this paradigm, the scientists substantiated their proposals on the elimination or mitigation of negative social phenomena, such as poverty, inadequate employment, physical and spiritual enfeeblement of the society, insufficient development of health care, education, and national culture. The third chapter deals with the full gamut of these issues. Understandably, the proposals set forth by the contributing writers can be implemented, provided one key condition is in place – dynamic economic development backed by revitalised reforms congruous with the spirit of the time and global economic processes.

That is precisely why the fourth chapter of the report focuses on the main elements of macroeconomic policy and improvement of central governance. Consistent evolutionary integration of Belarus into full market relationships takes priority over a shock-like revolutionary approach. The socially-oriented economic development model, which has guided the country in the last 8–9 years, has helped to preserve industrial potential and avoid a sharp increase in poverty during the transition period. At the same time, the report contends that deep changes in the economic system are necessary at the current evolutionary stage. The stabilisation achieved in the country moves to the foreground the desirability of deeper market and institutional reforms and an innovative development path. Pursuing economic policies in an unmodified way creates real threats to socio-economic development, manifesting themselves in a quickly rising number of loss-making enterprises, indebtedness, dropping volume of investment, growing unemployment, and decline in the economy's competitiveness.

Taking the above into consideration, the report concludes that economic reforms at this stage should be consistent and systematic and aim to promote liberalisation, privatisation, and the removal of barriers to SME development. The relevant section of the chapter touches upon quite a large number of issues supportive of the intensive development of small- and medium-sized business.

The experience of the world community provides unmistakable evidence that the intensity and quality of institutional changes largely depend on the public's influence on governmental activities in this direction. In developed democracies, civil society functions as this controlling instrument and is actively involved in policy making at all stages and all levels. Therefore, the report pays special attention to the modalities and ways of building civil society in Belarus. Moreover, the successful formation of civil society is viewed as a prime condition for a new stage of economic reforms directed towards sustainable economic growth, strengthening of social and political stability, and human development in every possible way.

Summarising the brief overview of the report, I wish to stress that the writing team sought to reflect the essence of socio-economic processes in the country in a veracious way. Their proposals are based on the knowledge of objective modalities in Belarusian society, global economic development trends, and the social impact of economic transformations in the CIS member states and in the Central and Eastern European countries with economies in transition. Some of the findings and proposals are somewhat controversial and debatable, which in unsurpising

given the wide range of issues covered. Given the absence of a generally accepted model of transition from an administrative control economy to a market economy, the availability of several kinds of market economies in the world and the enormously negative social implications experienced by the post-socialist countries during the reforms, a range of different approaches towards economic transformations in the former socialist countries is fully justified. This report, although not without certain contradictions, provides a full, comprehensive and realistic picture of human development prospects in Belarus in the context of globalising tendencies around the globe and the integration process in Europe.

The successful formation of civil society is viewed as a prime condition for a new stage of economic reforms in Belarus directed towards sustainable economic growth, strengthening of social and political stability, and human development in every possible way

CHAPTER 1

New Challenges to Human Development in Belarus at the Beginning of a New Century

1.1. GLOBALISATION AND THE GEOPOLITICAL POSITION OF BELARUS

At the turn of the century and the millennium, the world economy is experiencing new processes caused, on the one hand, by a changing global economic environment and, on the other hand, by the political, cultural and economic dissonance these processes create. In the early 21st century, it is not just the world economic environment with its interrelated elements that is changing, but the very understanding of its role and place in world development as well.

Economic changes are primarily attributed to the current process of globalisation. By its nature, globalisation is an objective and nonlinear process. The formation of the global economy is a phenomenon in which every national economy is already trying to secure its niche. Western experts assume that in the next 50 years integration tendencies leading to globalisation through regionalisation will determine development trajectories. Non-involvement of any given country in these processes will sidetrack it away from the new industrial, post-market civilisation.

Globalisation is an objective process involving individual national economies – regardless of whether they are market or non-market-oriented – in an integrated world economic system where national economies participate through the international division of labour and various international economic and political ties, that lead to the establishment of a single world market economy with adequate infrastructure. World economic development is one, continuous process. The same processes that have helped build market-led economies over the last 800 years are still functioning today. In the beginning of the 21st century, this process has several major features:

- integrated information and financial environments;
- global scale markets and integrated production systems;
- use of high technologies in all areas of human activity leading to changes in human behaviour and attitudes;
- unsurpassable leaders in the development of information, telecommunications technologies and means of transport supportive of integration processes;
- shift of the world macroeconomic structure's centre of gravity toward services resulting from an increased role of education and human capital in economic development, and the utilisation of science in production.

The consequence of globalisation is a gradual negation of states' sovereignty as key players in international relations. This process suggests that the unified world economy will bring new geopolitical structure as well. Already today, the world economy is not merely the sum of national economies, but is an example of real global economics characterised by a world-embracing economic system, including such phenomena as trans-national corporations, international companies, their alliances, regional groups, international organisations and their relationships respectively, in addition to national states.

Social scientists approach the issue of globalisation from the perspective of a homogenising world community that abides by the same laws and adheres to the same values. Since globalisation as an economic phenomenon has its origins in the market system and is, in effect, a subsequent step in the evolution of the western-type institutionalised market systems, it brings values typical of western culture and civilisation. Nowadays, however, globalisation has become an international phenomenon and a process of internationalising the market model in different cultural contexts. The example of China – far from a Western society – is indicative of the positive aspects, as well as of the possible side-effects of this process.

Several important factors that heavily influenced the development of the Western European civilisation in the last millennium and generated specific cultural and economic characteristics are worth mentioning: the exceptional role of individualism, cornerstone of the Western economic culture; the Western church traditionally standing above the state; and protestant values in particular (analysed back in the early 20th century by Mark Weber in "The Protestant Ethics and the Spirit of Capitalism"). All these elements were considerably influenced by Roman law which made a large contribution to the economic and political development of Western Europe in the Middle Ages. By borrowing from Roman law in royal legislation and later in bourgeois legislation, market-spawned individualism was able to operate within the boundaries of the legal and cultural traditions of these societies.

Although the concepts of individualism, the market and civil society were formulated in Western Europe, their testing ground was in the United States where they were introduced by Western European emigrants. Subsequently, after World War II, the US "re-exported" the concept of individualism underlying

In the coming decades, integration tendencies leading to globalisation through regionalisation will determine development trajectories. Non-involvement of any given country in these processes will sidetrack it away from the new industrial, post-market civilisation

bourgeois development to Western Europe together with its political, economic and military influence.

Throughout the whole 20th century, Marxism, as implemented within the socialist system, presented a collectivist and egalitarian alternative to the individual-based development trajectory. In economic terms, however, it proved to be less effective and ceded to liberalism. After the collapse of the USSR, the world lost its bipolar character and liberalism started spreading across other countries and regions of the world. Yet the victory of liberalism does not mean that collectivism or collective values as well as national cultural specifics should be necessarily abandoned. Simply put, these values require completely different conceptual and institutional frameworks to support their implementation and should adapt to the principles and constraints of the globalising world economy. Nowadays, national economies make rapid "adaptations" to the globalising world economy. This process occurs more or less conflict-free, depending on the ability of national economies to re-examine and re-build their geopolitical position in a timely manner.

In economic terms, the socialist system proved to be less effective and ceded to liberalism. Yet the victory of liberalism does not mean that collectivism or collective values as well as national cultural specifics should necessarily be abandoned

Nowadays, nation-states still remain the leading players in the world economy and politics, but their main function is to uphold their own economic interests, support their "own" business and promote it externally. It is the state which assists its "own" enterprises in making adaptations to globalisation. Nevertheless, it is much more difficult to characterise the modern world simply as a combination of states, because such phenomena as labour migration, capital and innovation flow, environmental interdependence and the proliferation of long-range weapons of mass destruction challenge the long-established perception of the state and its international relations based on the triad of territory, sovereignty and security.

Throughout the 19th and 20th centuries, three types of resources were essential for successful economic growth – labour, capital and land. Obviously, the availability of resources enables a national economy to develop up to a certain point, but given accelerating globalisation processes in the world, geopolitical resources are also beginning to play a major role for states. The geopolitical resources of a country or region represent an economic, political, natural, geographic, scientific, technological and military aggregate that determines their capacity to achieve certain tactical and strategic goals. Thus, the structure of geopolitical position today includes not only economic resources proper, but also military (new-generation weapons, modern troops), territorial (geographic location, economic infrastructure, direct access to seas and oceans, climate), natural (especially resources used for fuel and energy) and scientific and technological resources (level of science and technology capacity, its infrastructure and human resources component). Political resources also play a significant role. In other words, political decisions and the presence of highly educated government representatives help to provide quick responses to changes in the external globalising environment and to find the right solutions. In sum, the geopolitical capacity of any given country is comprised of various economic, territorial, military, natural, climatic and political elements that enable it to achieve certain goals in the globalising world.

Dramatic improvement in communications and transport, the IT revolution and the emergence of new armaments (nuclear, biological, psychotropic) radically change the relationship between human beings and their environment. In this new reality, the perception of a state's might based on a combination of geographic, demographic and economic factors is no longer adequate. Nonetheless, even the well-known western political scholar Zbigniew Brzezinski admits that "geographic location is still a starting point for foreign policy priorities of nation-states, while the size of the national territory is still very important as the criterion of status and strength". Obviously, the territory remains important as living space, but given the depletion of natural resources, the availability of land becomes of paramount importance. Intellect is definitely important, especially as neo-economics is taking shape across the globe, and so are highly skilled human resources. A product, however, is always tangible, therefore the role of the resources required to produce it remains important.

Given the finite and limited nature of terrestrial substances (inorganic and organic natural resources), the availability of natural resources and access to them becomes a limiting factor for economic development and the prosperity of a given nation.

Several major trends stand out as regards the supply of resources needed for world production:

a) an increasing volume of non-renewable natural resources entering the production cycle;

b) due to depletion of resources, economic development is becoming increasingly dependent on inputs supply (despite the reduction of resource intensity per unit of production);

c) direct and indirect costs of inputs are increasing; and

d) the asymmetry between location and utilisation of resources matched by the growing disparities of development levels of producers and importers of mineral resources sparks regional conflicts, international social tensions and clashes (using the term

Box 1.1.1

Global imperatives for global processes

The challenge of globalisation in the new century is not to stop the expansion of global markets. The challenge is to find rules and institutions for stronger governance – local, national, regional and global – to preserve the advantages of global markets and competition while also providing enough space for human, community and environmental resources to ensure that globalisation works for people, not just for profits. This means globalisation that includes:

- Ethics – less violation of human rights, not more.
- Equity – less disparity within and between nations, not more.
- Inclusion – less marginalisation of people and countries, not more.
- Human security – less instability of societies and less vulnerability of people, not more.
- Sustainability – less environmental destruction, not more.
- Development – less poverty and deprivation, not more.

Source: Human Development Report. 1999.

suggested by Samuel Huntington) between civilisations.

Geographically, Belarus is at the centre of Europe. Economically, it belongs to the western part of Europe's East. Such a location has its impact on Belarusian culture, history, economics and the population's mindset. In the Middle Ages and at present, Belarus has been and is a unifying link between East and West, between Russia and a united Europe.

Belarus is located at the water divide of the Baltic and Black Seas and occupies an area of 207.6 thousand square kilometres, approximately two percent of Europe's total land area. Throughout the second half of the 20th century, the economy of Belarus was moulded as an integral component of the USSR's national economic complex. This was true for the energy system, gas and oil pipelines, industry and agriculture. Within the framework of the Soviet economy, Belarus performed the function of an assembly and processing shop. Such giant plants as Minsk Tractor Works, Minsk Automobile Plant, Belarusian Automobile Plant, the Gomel-based Agricultural Machinery Plant, Mogilev Chemical Fibre Plant, "Azot" in Grodno, "Integral" and "Horizont" in Minsk and a number of other enterprises had been built in the country. They were using inputs (raw materials and accessory parts) from Russia and other Soviet republics and were selling the product on the ample marketplace of the former Soviet Union. The education and research infrastructure, science and manpower had been created to meet the requirements of these large-scale industries respectively. In other words, Belarus' geopolitical capacity was an inherent part of the former USSR's capacity with both its pros and cons. It was during the Soviet era that Belarus made a spectacular transformation from a backward province of the early 20th-century Russian Empire to an industrially developed republic. It was industrially developed by the time the USSR started to disintegrate. Moreover, in the 1980's, Belarus was able to renew virtually all of its industry. However, since 1992 (the first year of independence), the share of industry in the GDP has been dropping (Figure 1.1.1).

In general, GDP structure tends to change. While in 1991 the industry share was 40.1 percent, agriculture 19.8 percent and services 27.9 percent, in 2002 industry fell to 26 percent, agriculture to nine percent and services soared to 45 percent. The employment in these sectors paints an even more telling picture: in 1991, industry employed 31.2 percent of the total workforce, agriculture 19 percent and services 38.4 percent; and in 2002 the respective shares were 27.3 percent, 13.5 percent and 51.1 percent. The GDP structure of Belarus is definitely changing, but it generally follows the global trend for industrially developed countries toward an increasing share of services in the GDP.

Nevertheless, the industry share still plays a substantial role in Belarus, both as a share of GDP and as a share of gross employment. Industry is an area which is largely dependent on the Russian raw materials, fuel and energy.

From a geopolitical viewpoint, the Republic of Belarus today faces a development policy choice of whether to join Europe as a sovereign state or go hand-in-hand with Russia. In the latter case, there are a number of options including that of absorption of a small system by a larger one.

As a sovereign state, Belarus has both traditional and new competitive advantages contributing to its geopolitical relevance. The traditional ones include a geographic location with a developed infrastructure corresponding to the geography of the country (railroad transport, road network and other communications). A second competitive advantage lies in its economic and social stability. For example, in 2002, the unemployment rate was only three percent in the overall labour force, although it should be borne in mind that unless a restructuring of the economy occurs, the hidden unemployment, by experts' estimates, can potentially rise to 30 percent. The Gini index, although tending to climb, shows that the income distribution gap is still quite even (2000 – 0.270; 2001 – 0.278; 2002 – 0.272) indicating relative social stability in the country. Belarus also has a sufficiently well-educated workforce. At 0.92, its education index is equal to that of Greece, Argentina and Uruguay and higher than Luxembourg, Israel, Hong Kong, Cyprus, Singapore and a number of other fairly developed countries. New competitive advantages are related to several factors:

- the low labour costs (wages in the industrial sector are slightly over USD 100 a month);
- potential growth in the number of small- and medium-sized enterprises (although today it is small – 29,044 small businesses including 26,849 private ones in 2002);
- the opportunity to utilise previous scientific achievements to develop small innovative businesses;
- adequate technological development; and
- close ties with neighbouring states of Poland and Germany.

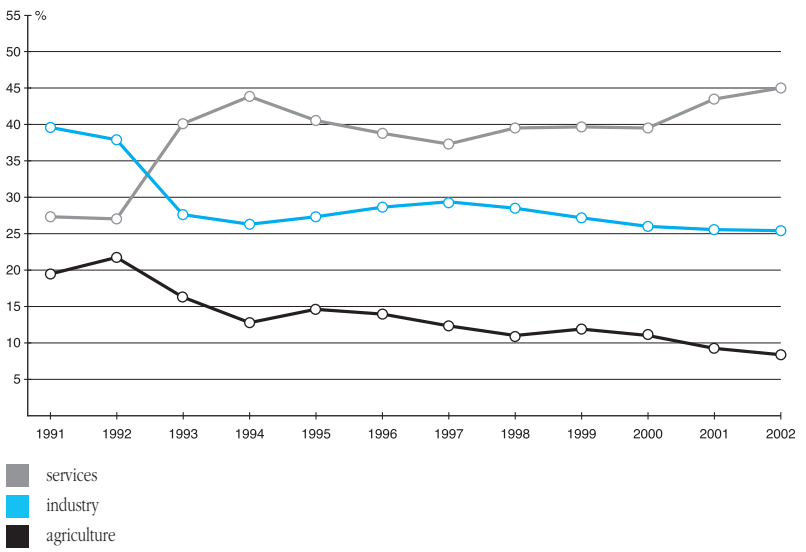
Altogether, the Central and Eastern European countries account for more than 50 percent of Belarus' foreign trade (Western Europe equals more than 20 percent) which can make a lot of difference in the economic relations of the European Union with Russia and other CIS states in the future.

In 2001, the United Nations devised a technological development index for 72 countries. Belarus was not included in that list because of a lack of relevant statistical data at the time. Nevertheless, the following data points to a rather high level of technological development in Belarus. For example, "the share of high and medium-technology commodities in general exports" in Belarus is 46.5 percent compared to Australia (16.2 percent), New Zealand (15.4 percent), Israel (45 percent), Hong Kong (33.6 percent), Greece (17.6 percent), Portugal (40.7 percent), placing Belarus ahead of seven European countries, including Norway, Poland, Belgium and a number of Eastern European

From a geopolitical viewpoint, the Republic of Belarus today faces a development policy choice of whether to join Europe as a sovereign state or go hand-in-hand with Russia

Figure.1.1.1

Shares of industry, agriculture and services in GDP, 1991 - 2002.



Source: National accounts of the Republic of Belarus. Statistical Yearbook. Minsk, 2003

countries. However, Belarus' high-technology exports account for only five percent, as in Australia, New Zealand and Greece. Here the country lags behind Lithuania (7 percent), Latvia (6 percent), Estonia (17 percent). In terms of research and development (R&D) expenditure, Belarus (1.1 percent of GDP) is ahead of New Zealand, Spain, Greece, Portugal, Slovakia, Hungary, Poland, Russia and several other countries.

All this supports the assumption that Belarus has a medium-to-high technological capacity which, if properly utilised, could put the country in a position to effectively respond to challenges of globalisation and be one of the world's leaders in technological advancement.

Human capacity investments are not a burden for the state budget, but investments with the highest rate of return, particularly in countries lacking substantive natural resources

Box 1.1.2

Can Belarus enter the post-industrial age?

The document Primary Areas of Socio-Economic Development to 2010 developed by the Ministry of Economy of Belarus stipulates that with limited resources available for research, the state should give priority to development of post-industrial technologies as a foundation for transition to a modern economy. It is proposed for a certain period of time to support basic industries (the automobile industry, tractor and machine-building, agricultural engineering, chemical and food industries, wood processing) which still have significant manufacturing and technological capacity. To that end, it will be necessary at least to increase innovation resources and bring the R&D intensity level up to 1.8 percent in 2005 and 2.5 percent in 2010 with regard to GDP as a whole.

This approach is generally in keeping with the country's aspiration to join the 4th group listing countries with developed economies, thereby ensuring deeper integration into global economic processes and consequently significantly improving the welfare of Belarus' people and the country's profile.

The last point is of major importance for Belarus. With liberalisation pending in Belarus' economy, Russia and Ukraine likely to accede to the World Trade Organisation and globalisation underway, it is necessary to improve the competitiveness of the products being manufactured. In the modern-day environment, this is possible only by upgrading to post-industrial types of production, reducing all types of cost per unit of GDP and improving the quality of manufactured goods.

Every rouble of Belarus' GDP is known to contain 65–68 kopecks of resources costs, 2–5 times higher than similar indicators in industrialised countries. Therefore, it is feasible to decrease resource consumption optimisation capacity by 20–25 percent in the short run and by up to 50 percent in the long run.

Source: A.I. Sviridenok, S. A. Maskevich, "Research and Innovation Aspects of Sustainable Development within Globalisation Context" Belarusian Economic Journal, 2003.

The fact that Belarus does not possess too many resources, including fuel and other forms of energy, is definitely a shortcoming. But the availability of raw stock and an abundant labour force is considered less of a competitive edge these days, because their share in the product cost structure is dropping. Moreover, if in the middle of the 20th century, the entrepreneurial skills of managers creating national GDP played a considerable part in the final cost of goods, today business is less tied to a particular country or territory. Innovation is the cornerstone of success in the 21st century for any territory where favourable conditions for business are in existence or being developed. Coupled with technological breakthroughs and innovative development, globalisation today permeates all levels of the economy and all areas of human societal activity. State-of-the-art technologies and innovations are chiefly determined by the quality of human capital and human capacity development.

Better education and social stability, a more conducive business environment and innovation development lead to more advanced technological development and deeper engagement of a country in globalisation.

To summarise, the country's geopolitical position based on the geopolitical resources available provides Belarus with the opportunity already at this stage to intensify its participation in the process of globalisation in which the Western countries have been jointly involved for the last 25–30 years. Belarus must come to terms with this idea and try to capitalise on its geopolitical advantages. In the long term, being involved in the process of globalisation as a full and competitive member capable of responding to its various challenges would create genuine opportunities for preservation of national identity in the fast-paced contemporary world.

1.2. Human development: obstacles and opportunities

Human development is about expanding human opportunities and reinforcement of human capacities. It is both a process and result of human activities within certain socio-economic frameworks. In modern societies, the cardinal wealth of a country is its human capacity, while the nation's intellect is becoming the driving force behind progress. With the process of globalisation progressing, human capacity is increasingly becoming the most important resource of any society. Therefore, any obstacles to a country's human capacity development, if not properly addressed, generate adverse demographic, social, economic, political, geopolitical and other consequences. Human capacity investments are not a burden for the state budget, but investments with the highest rate of return, particularly in countries lacking substantive natural resources. Investing in human capacity is important for political and economic development and, thus, for overall levels of human development.

Human development is a continuous process of

overcoming constraints that are intrinsic both to human beings in general and to the surrounding environment (e.g. natural, social and economic). Every country faces different constraints and, thus, the strategies for approaching them differ from country to country. The universal nature of the challenges and the specific strategies for tackling them are reflected in the Millennium Development Goals adopted at the UN Millennium Summit in 2000 and endorsed by all UN members. The eight Millennium Development Goals aim for: extreme poverty and hunger eradication; achieving universal primary education; promoting gender equality; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and developing a global partnership for development. The eight development goals and the 18 specific targets set should be achieved by the year 2015.

For Belarus, human development priorities, such as the creation of an enabling environment to lead a long and healthy life, education, access to resources necessary for sustainable livelihoods and participatory governance, are particularly important. If barriers to achieving each of these goals are addressed properly, human development levels reflected in the Human Development Index will improve.

The 2003 UNDP Human Development Report has already ranked Belarus 53rd in the global HDI ranking, placing it among those countries with high levels of high human development. Meanwhile, other former members of the "Soviet Bloc" are ahead in the ranking – Latvia (50th), Lithuania (45th), Estonia (41st), Poland (35th). The increase of Belarus' human development index value from 0.788 in the 2002 report to 0.804 in 2003 is due to improvement of the combined gross enrolment ratio and the corresponding increase in the education index value from 0.92 to 0.95. Similarly, the life expectancy index increased from 0.73 to 0.74, contributing to the increase of the total HDI value (and the country's ranking). At the same time, the GDP index remained the same at 0.72. Worth noting is that the GDP index is calculated on the basis of the 1996 GDP, a period of high inflation in the country. If calculations were based on 2001 data, Belarus' human development index would be somewhat lower and would give a clearer picture of the real situation. Hence despite the reported improvement in HD ranking, Belarus still has difficulties in overcoming the obstacles it faces. To this end, the barriers to human development need to be properly identified and strategies drafted for overcoming them.

Demographic tendencies are one of the alarming areas. Since 1994, the country's population has been declining slowly but steadily. If in both 1994 and 1995, for example, the population was declining by 0.3 percent annually, in 2002, the decline rate reached 0.5 percent. The Belarusian population dropped below the 10-million mark in 2001. The cumulative birth rate was on a steady decline from 1,906 in 1990 to 1,386 in 1995 and 1,273 in 2001. The current demographic situation in the country can be classified as critical. Starting in 1994, the number of deaths registered per year exceeded the number of births for the first time since World War II. The continuing decline in the birth rate inevitably leads to a smaller proportion of young people and larger percentage of retirement-age population. This trend is particularly evident in large cities where senior citizens represent more than a quarter of the population. The ageing population creates another hurdle to human development by putting the employable part of the population under ever-increasing pressure. If in 1990 the dependency ratio, for example the worker/pensioner ratio, was 2.2 to 1, in 2002, it fell to 1.6 to 1. At the same time, life expectancy at birth is low and fluctuating. It was 71.1 years in 1990 falling to 68.6 years in 1995 and 68.5 in 2000. It increased to 69.6 in 2001 but is still too low for a country located in the centre of Europe. The main contributors to the short lifespan are high mortality caused by circulatary diseases, accidents and murders and suicides among working-age people, especially in men. For example, premeditated murders committed by men from 1995 to 2002 have risen almost by half amounting in 2002 to 19 killings per 100,000 men. Similarly, the suicide rate has risen from 56 to 60 per 100,000 persons. Deaths caused by respiratory diseases and, to a lesser degree, by infectious diseases also display a relatively high level.

The "old" causes of death related to infectious diseases reportedly contribute less to the shaping of the current public health conditions in Belarus than the "new" ones that have come to replace them – primarily diseases of the circulation system and malignant tumours. The country has been less effective at fighting circulatory diseases than many other developed countries, where the number of deaths from cardiovascular diseases significantly dropped in the 1970–80's. The weaknesses of Belarusian healthcare are a serious setback for human development.

Another barrier stems from a low level of public awareness regarding healthy lifestyles and weak articulation of the concepts and value of such behaviour in the public mind. The statistical figures prove this point. Absolute alcohol consumption per capita has risen from 6.7 litres to 9.7 litres over the period 1995–2002, while the proportion of smoking adult women has increased from 3.6 percent to 6.3 percent of the total and the share of smoking men has not dropped below 50 percent. Several other social health indicators also provide grounds for alarm. For example, 915 cases of HIV were recorded in the country in 2002, as compared to eight in 1995. The number of drug-related crimes increased from 15 in 1995 to 53 in 2002 per 100,000 people. More than 50 percent of families break apart, and the number of children born out of wedlock has nearly doubled, rising from 13.5 percent in 1995 to 21.4 percent in 2002. Sadly, the 1990 population census revealed 10.3 percent of broken families in the country and the figure rose to 14.4 percent according to the 1999 census.

As this data suggests, deteriorating national health – both physical and social – is a major obstacle to

For Belarus, human development priorities, such as the creation of an enabling environment to lead a long and healthy life, education, access to resources necessary for sustainable livelihoods and participatory governance, are particularly important

human development in Belarus. One could even say that the health status of every generation is getting worse compared to the status of the previous one. This means that a set of urgent measures for preventive healthcare and increased awareness of healthy lifestyles should be given priority status. Good health should be emotionally and economically appealing. In this regard, the implementation of health insurance-based medical services holds significant potential. However, care should be taken to preserve and improve the quality of free healthcare according to strict medical criteria.

Physical education can also contribute greatly to the promotion of healthy lifestyles. Although over the last eight years the government has been spending five percent of GDP on healthcare and physical education, the mass physical training movement and sports clubs still do not cover a considerable portion of schoolchildren. It is imperative to take full advantage of the existing sports facilities, stadiums, ice palaces, etc. Efforts to promote physical education involving the general public should target not only young people, but also the adult population.

Education is one of the decisive factors contributing to an improved international profile of Belarus

Education is another crucial human development area. In line with this, the Millennium Declaration declares universal primary schooling as one of its goals. Belarus performs rather well on that score. In terms of population-wide education levels, Belarus is one of the world leaders. The adult literacy rate (99.6), for example, places Belarus ahead of Italy, Spain and Greece. Similarly, its education index of 0.92 places Belarus in the same group as the aforementioned countries, as well as with many CIS states (Russian Federation, Ukraine, Turkmenistan, and Armenia (0.92)). Alongside many of the USSR successor states, the Republic of Belarus has been able to preserve the education capacity it had built during the Soviet era. The education index has a very significant role to play in the country's human development index, helping somewhat to make up for the poor performance of other indicators. This is highly positive because the field of education has become this century's strategic point of increase in the developed countries. The world's experience suggests that advances in education largely contribute to a country's investment appeal, ensure technological breakthroughs and create an enabling environment for human development in the long run, directly and indirectly. Education is one of the decisive factors contributing to an improved international profile of Belarus. Education should assist the country in addressing current social, economic and national security challenges. Economic modernisation and the formation of civil society are impossible without improvements in education.

On first glance, it appears that no education-related obstacles to human development seem to exist in Belarus, but in fact this is not the case. First of all, it should be noted that education spending, although increasing, remains quite insufficient, edging upward 1.3 percentage points over the period 1995–2002 and landing at 6.8 percent of GDP at the end of the period under review. Notably, over the same period of time, private funding of education has stayed flat, representing 0.4 percent of GDP in 1995 and 2002 alike. On the other hand, in accordance with international standards, the amount of funding should be at least 10 percent of GDP for education to develop dynamically.

Financial constraints place secondary schools and higher educational facilities under increasing pressure and they often have to organise teaching in two and sometimes even three shifts. In recent years, less attention has been focused on vocational education, which can potentially lead to an acute deficit in the skilled labour force of the future. The modern universal school education, with all of its innovative reform trends, inadequately takes into consideration the biological, physiological, psychological and age-specific peculiarities of schoolchildren's development.

Gaps in school curriculum planning related to human studies and the development of social skills pose another serious threat to human development. Schools still lay more focus on knowledge and skills than on personality and creative development of the younger generation.

In Belarus, relatively low living standards co-exist with unprecedented literacy and education levels of the population. This paradox contains another barrier to human development not to be neglected. Ample evidence suggests that Belarus is turning into an incubator of highly skilled human resources in the international division of labour.

The insufficient quality of educational services further impedes human development. This primarily concerns many privately owned universities and distance learning. It is not by mere accident that the Education Quality Department under the Ministry of Education of Belarus has consistently found a fairly low level of student performance in some non-state universities on many subjects, both general and specialised. It would be advisable to ensure methodological support from leading government-run universities to privately-owned institutions to help them facilitate their teaching process. The improvement of distance learning can be achieved through the advancement of computer technologies and the preparation of relevant teaching guides. All of this should be taken into account as higher education makes a transition towards a two-level education system.

In the period 1995–2002, the enrolment ratio in universities of natural and applied sciences shrank by 13 percentage points, falling to 34 percent versus 64 percent in 1990. This ongoing trend is inconsistent with the projected employment pattern and could be addressed through complete state support to relevant higher education establishments, including a government request for specialists in these fields and an offer of higher salaries. Apparently, the time has come to override the disturbing trend of shrinking female enrolment in universities of natural and applied sciences. In 1995, the male/female ratio was 1 to 0.98;

in 2002, it changed to 1 to 0.56.

Widening income gaps, commercialisation of education and nearly 37 percent of the population living below the poverty line create a human development problem of a new kind. This is a problem faced by most secondary school graduates, especially those from rural areas and underprivileged families. They find it very difficult to pay for preparatory courses, let alone hire a personal tutor to help them through highly competitive entrance examinations. If they cannot afford that, they certainly cannot afford to pay tuition. Such a state of affairs obviously keeps a considerable portion of the gifted youth out of the education process, thereby weakening human capacity development. To address this barrier, it seems appropriate to use such tools as an education credit system, a unified state examination, enrolment based on academic merit and, eventually, the elimination of all exams whatsoever for the first year, a practice widespread in many Western countries. At the same time, high on the agenda are the issues of fee-based education, differentiated financial aid to the most gifted youth and essentially new approaches of assessing higher education knowledge.

A high level of education provides better access to income opportunities. The ratio of unemployed with incomplete basic secondary education to those with complete higher education supports this statement, having not slipped below 1.33 to 1 in the last five years. This is not, however, always the case for women. Even high education levels still do not provide them with better employment opportunities. In 2002 for example, the average woman's wage was 85 percent of that of a man, and unemployment among women was 73 percent higher than among men. On the other hand, the ratio of women and men enrolled in higher education facilities has remained more or less the same at 1. Similarly, high levels of education do not give women any advantage in obtaining government positions. Notably, the higher the position is within the government hierarchy, the less likely a woman is to hold that position. For example, only two women hold posts at the ministerial level in Belarus. The gender issue, inadequately addressed, negatively affects the pace of human development in the country.

A low average wage, which has considerably lost its incentive power, poses another challenge to human development. Sectoral fluctuations and wage arrears somewhat reduce the effect of real salary growth found in the economy in recent years. This is particularly true for the agriculture and public sectors. Nevertheless, the Decile ratio of 3.9 and Gini Index of 0.272 in Belarus are the lowest in the world and point to the absence of social conflict between the poorest and the wealthiest. At the same time, living below the poverty line for a long time generates "the poverty adaptation" for more than a third of the population and makes them devoid of perceptions associated with middle-class life. Loss of these perceptions is an appreciable barrier to human development, not only in terms of narrowed access to resources for sustainable livelihoods, but also in the light of a shrinking market for innovative products and generally hindered economic development likely to occur in the long term. Long-lasting poverty precludes a competitive labour force from entering the market and breaking the vicious circle of social exclusion.

The rather low earning capacity of the intellectual elite in Belarus generates the human development problem of labour migration and becomes a way for citizens to gain access to resources. Brain drain irrevocably hurts the nation's human capacity. Expert estimates suggest that the country invests approximately USD 600,000 into every doctor of science it prepares. Given the current situation, this barrier could be addressed not through salary incentives, since financial resources are limited, but rather by improving the social status of skilled researchers and scientists, creating a work-conducive psychological climate, and fostering the application of scientific achievements by granting tax breaks to economic entities that would use them and commit themselves to sponsoring science. Keeping contact at all levels with those who have gone abroad could also work well for the preservation and development of human capacity.

One of the serious obstacles hindering access to resources for sustainable livelihoods is a low level of legal, social and psychological awareness of the better part of Belarusian society regarding market relations. In a society where, for a long time, altruism, disapproval of profit-making, and an almost hostile attitude towards private business success have been deeply ingrained in the public mind, the customary moral values of the older generation come into conflict with the realities of life. At the same time, the pragmatic and highly flexible younger generation perceives these realities as givens and seeks to fit into this fast-paced, changing environment to the best of their ability. Unfortunately, the postulate that culture and education are stand-alone values – an attitude the older generation still tends to share – holds no water when it comes to living standards comparisons. Of course, the set of values should be adjusted both ways: the old need to move away from a welfare mentality, and the young need to develop better spiritual values. This approach could provide a foundation for a government ideology of developing the younger generation.

Other barriers to human development exist in the Republic of Belarus as well. These barriers should be overcome in a systematic way, based on a clear identification of the challenges and the use of adequate approaches and resources. The overall approach should take into account the comprehensive picture of risk factors, opportunities and priorities of individuals and society at large.

Along with some positive effects of low Gini Index in Belarus, living below the poverty line for a long time generates "the poverty adaptation" for more than a third of the population and makes them devoid of perceptions associated with middle-class life

1.3. Internal economic challenges of Belarus

Human development is closely associated with a country's socio-economic performance, which

Figure 1.3.1

Dynamics of per capita GDP and living standards in the Republic of Belarus (as a percentage of the previous year)

Source: Statistical Yearbook of the Republic of Belarus. Minsk, 2003

As of 1.01.2003, almost one third of enterprises in Belarus were operating at loss

includes both economic growth and the equitable distribution and use of resources. The United Nations Millennium Declaration mentions that "the current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants".

Box 1.3.1

Controversial stabilisation

The modalities of the national economic policies stem from their priorities. The outcomes of the last year indicate that we are basically moving from bad to worse in our attempt to achieve them – of 16 targets, 12 were met last year and only 6 at present.

Improving the living standards is one of the priorities that has been announced. The 2002 figures show that cash incomes of the population were on the rise, exceeding eight percent, but contrary to 2001, their growth rate dropped almost three times. The average monthly salary across the country amounted to USD 107 (in December – USD 115). At the same time, there is a high portion of low-income people within society: approximately 30 percent earn an income lower than the minimum, while more than 70 percent have an income below the minimum consumer budget.

Notably, citizens have barely changed their saving habits despite the falling rates of income growth. Economists estimated the savings rate at 22 percent (19.6 percent in 2001), with a predominance of hard currency savings (15.4 percent) and equal shares (3.1 percent) in deposits and securities. Cash savings have depreciated 0.3 percent versus 0.8 percent in 2001.

A comparison of the economic growth officially reported (4.7 percent) with actual public income growth (eight percent), retail turnover (12.9 percent) – including trade companies by 8.5 percent and markets by 21.7 percent - and the scaling up of consumer goods production by only 3.8 percent provides a bleak picture of the sources of growth. According to official opinion, domestic consumer demand explains the growth, whereas inflation on the consumer goods market was curbed by imported mass consumption goods. The unpleasant conclusion was that growth was achieved with extremely low production efficiency. The financial status of enterprises continues to deteriorate, although at a slower pace than previously.

Much is still uncertain regarding the macroeconomic stabilisation trend which the government claims to have attained. Experts maintain that such stabilisation requires not only continual GDP growth and halted inflation and devaluation processes, but also a viable balance of payments and growth in both incomes and employment. In Belarus, the lack of balance in the domestic economy is still confirmed by the budget deficit of 0.4 percent last year (in 2001 – 1.6 percent). A current account deficit is evidence of the external imbalance. Commodity turnover with Russia, accounting for the lion's share in overall foreign trade, is at a deficit of USD 1,789 billion, up 1.3 times from the year 2001.

Source: Oksana Kuznetsova. National Economic Gazette, 2003.

Belarus entered the new Millennium with an economy in the process of reform and recovery. The implementation of the 1996–2000 Socio-Economic Development Program was generally successful and most of its key targets and parameters were achieved with the exception of agriculture (output finished at 96.9 percent of the 1990 level versus the targeted 110.4–119.3 percent), capital investments (113.3 percent of the 1990 level versus a projected 134.7–146 percent), and monthly inflation rate (6.6 percent versus the 1.5–0.5 percent target). As a result, in 2000, indicators such as industrial output (100.7 percent), consumer goods (110.1 percent), and real incomes of the population (107 percent) exceeded those from pre-crisis 1990 levels. GDP, however, constituted only 89 percent of the pre-crisis level, with agricultural output at 71.4 percent and capital investment at 52 percent.

In recent years, the government's policies have focused on economic recovery, making it possible to liberalise the consumer market and restructure industrial production to better meet consumer demand.

Starting in 1996, major sectors of the economy and living standards of the population started to show improvement (Table 1.3.1; Figure 1.3.1). However, as GDP grows, certain alarming symptoms persist. Low competitiveness of enterprises (high production costs) still leads to stockpiling of unsold goods and increasing indebtedness, while low levels of profitability make extended production impossible. The number of loss-making enterprises is increasing (as of 1.01.2003, 32.9 percent of all enterprises were operating at a loss). Lack of capital investment contributes to the deterioration of fixed assets – up to 70–80 percent of Belarusian enterprises' fixed assets are obsolete.

The full employment policy widely practised in both the industrial and non-industrial sectors kept the unemployment and poverty rates low in the late 1990's. However, it is increasingly becoming a barrier to sustainable economic growth and negatively affects public welfare in the long run. The flip side of the full employment policy is large-scale hidden unemployment, part of a "vicious circle" of low competitiveness. Even if investment capital were available, any funds injected before structural reforms took place would not improve industries' competitiveness, but simply contribute to the replication of an obsolete production structure and fail to ensure the economy's transformation.

To address these issues, the 2001–2005 Socio-Economic Development Program of the Republic of Belarus was developed with explicitly defined goals and objectives, priorities and key parameters of the country's socio-economic development for the first five years of the new century. Besides the five-year program, annual forecasts of the country's socio-economic development are elaborated and have been endorsed by the President of the Republic in a presidential decree.

In recent years, the government's priority indicators

of socio-economic development have been rather ambitious and achieving them has become increasingly problematic. While all the approved annual projections were met in 2000, in 2002 this was not the case for agricultural production, industry, consumer goods or capital investment (Table 1.3.2).

The growth of industrial production in Belarus is hampered by difficulties in selling the uncompetitive products, both in domestic and external markets. This has led to increased overstocking. As of 1.01.2003, the end-of-the-year production inventories constituted 67 percent of the average monthly output compared to 63.8 percent as of 1.01.2002. The largest share of final production stock consisted of machine-building and metal-working (43.9 percent), the petrochemical industry (13.4 percent), light (12.9 percent) and the food industry (12.7 percent).

As of 1.01.2003, 32.9 percent of enterprises in Belarus were operating at loss, with light industry, construction materials and food industries responsible for 47.9 percent, 45.5 percent and 38.2 percent respectively.

The profitability rate for the products and services provided by industrial enterprises in 2002 was 10.5 percent, as opposed to 15.8 percent in 2000. The following industries were operating at a loss: petrochemical (-4.5 percent), microbiological (-2.4 percent), peat (-1.8 percent), meat and dairy (-1.2 percent) and feed mill industries (-0.4 percent). The improvement of financial solvency and sustainable development of the country's industrial complex requires a dramatic reduction of unit costs, more efficient energy consumption, a growing share of products compliant with international and other standards, and an increasing share of innovative products.

From a human development perspective, the agro-industrial complex has a special role to play as a pillar of the country's food security. The Republic of Belarus is ahead of all of the CIS states in per capita milk, meat and potato production. However, the living standards in rural areas still fall far behind those in the city.

Alongside low salaries – average monthly salary of agricultural employees in 2002 stood at 49.9 percent of the country's average – an inadequate social infrastructure and, primarily, insufficient access to adequate housing cause rural living standards to lag behind those in the cities. As a result, the youth still migrate to the city where employment and income opportunities are better. From a long-term perspective, this could create a serious labour shortage in the agricultural sector.

Agricultural productivity largely depends on meteorological conditions. This is one of the reasons why significant disparities in production of staple crops appear from year to year (Figure 1.3.2.). Given these constraints, rural development opportunities should not be sought solely within agricultural production alone. Animal husbandry is under particular pressure chiefly due to insufficient supplies and inferior quality of fodder. The field is suffering a decline in general. As of early 2003, livestock population was down 20.8 percent versus 1995, including cows (19.8 percent), pigs (14.7 percent), sheep (2.8 times), and horses (9.1 percent). In 2002, the supply of cattle and poultry for slaughter decreased by 20.6 percent, milk production by 3.2 percent, and egg production by 13 percent compared with 1995. Crop production began to dominate the agricultural product mix as of 1994 (Figure 1.3.3).

The agricultural sector's most acute problems in 2002 were related to the poor financial status of enterprises, the ongoing depreciation of fixed assets due to lack of capital investment and land ownership. Despite these constraints, however, the year 2002 saw a slight increase in the agricultural gross output (101.5 percent versus the forecasted 103–104 percent). Cattle breeding production rose by 1.1 percent, while crop production fell by 0.4 percent as a result of significant

Table 1.3.1

Indicator dynamics of key branches of the real sector and living standards in the Republic of Belarus (as % of the previous year)

Indicators	1995	1996	1997	1998	1999	2000	2001	2002
GDP	89.6	102.8	111.4	108.4	103.4	105.8	104.1	104.7
Industrial output	15.8	109.0	122.8	120.8	109.2	104.1	106.8	103.8
Consumer goods production	95.3	102.4	95.1	99.3	91.7	109.3	101.8	101.5
Agricultural produce	95.3	102.4	95.1	99.3	91.7	109.3	101.8	101.5
Capital investments	69	95	120	125	92	102	97	103.2
Housing put into operation	57	135	128	108	80	121	85	94
Retail commodity turnover	77.2	130.5	117.9	126.1	110.7	111.8	128.2	112.9
Social services on a paying basis	95	105.7	107.8	111.0	113.3	104.9	109.0	107.1
Real incomes of population	73	117	106	119	97	120	129	108
Actual salary	95	105	114	118	107	112	130	108
Actual monthly pension	126	99.7	109	112	105	127	136	102
Economically active population (as % of all population)	44.4	44.7	44.8	45.0	45.3	45.3	45.3	.....
Unemployment rate (official)	2.9	4.0	2.8	2.3	2.1	2.1	2.3	3.0
Share of loss making enterprises and organisations (as % of the total number of enterprises)	17.9	18.4	12.3	16.2	16.9	22.3	34.2	34.9
Profitability of goods (work, services) sold	10	9.8	10.3	10.9	15.2	13.1	7.8	8.7
Consolidated budget deficit (as GDP %)	-2.7	-1.9	-2.2	-1.4	-2.9	-0.6	-1.6	-0.2

Source: Statistical Yearbook of the Republic of Belarus. Minsk, 2003

The growth of industrial production in Belarus is hampered by difficulties in selling the uncompetitive products, both in domestic and external markets

Table 1.3.2

Implementation of priority parameters of annual socio-economic development forecast in the Republic of Belarus in 2000–2002 (in comparable prices)

	2000 as % of 1999		2001 as % of 2000		2002 as % of 2001	
	as forecasted	actual	as forecasted	actual	as forecasted	actual
Gross domestic product	102-103	105.8	103-104	104.1	104-105	104.7
Industrial output	102-103	107.8	104.5-105.5	105.4	*105-106*	*104.3**
Agricultural produce	108-109	109.3	103.5-104.5	101.8	*103-104*	*101.5*
Capital investments	102-103	102	103.5-104.5	97	*106-107*	*103.2*
Consumer goods production	103-104	104.1	103.5-104.5	105.7	*104.5-105.5*	*103.8*
Real incomes of population	101	120	103.5-104.5	129	105-106	107.7
Retail turnover	102.5-103.5	111.8	104.5-105	128.2	105-106	112.9
Paid social services	102-103	104.9	103-104	109	105-106	107.1
Commissioning of new housing based on all sources of funding, thousand sq. m.	3,500	3,528	2,750	3,009	1,500-3,000	2,825

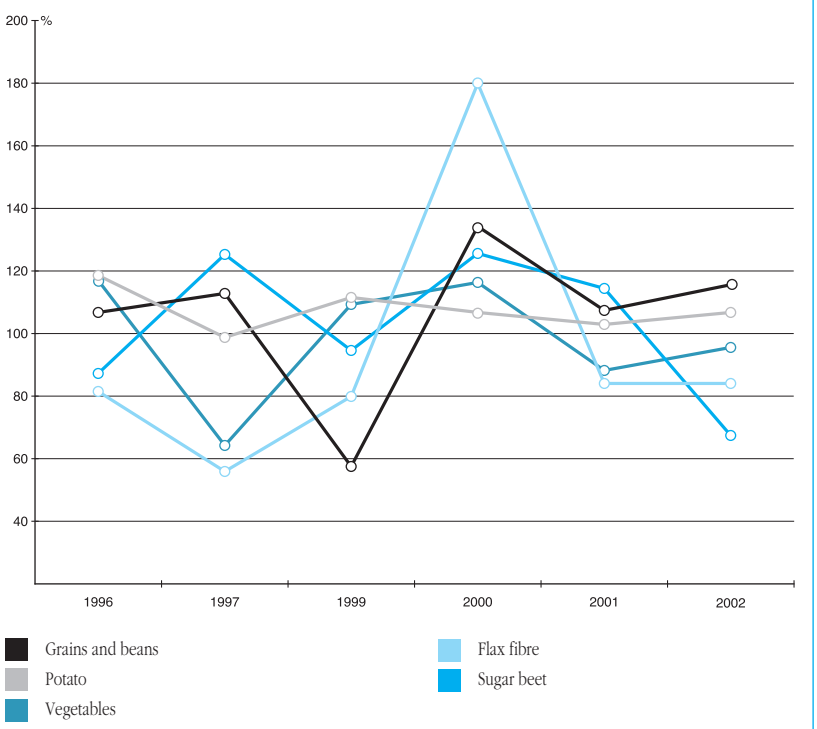
* Unmet targets are italicised
Source: Statistical Yearbook of the Republic of Belarus. Minsk, 2003.

Increase of wages in agriculture is possible only within the framework of long-term structural reforms

underperformance in the production of sugar beet (32 percent less than envisaged), flax fibre (16 percent less) and potatoes (four percent less). Meanwhile, total grain yield was relatively high (nearly 6 million tons) – 21.3 percent more than in 2000 and 11.4 percent more than in 2001.

Figure 1.3.2

Production of staple crops in the Republic of Belarus (as % of the previous year)



Source: Statistical Yearbook of the Republic of Belarus. Minsk, 2003

To ensure sustainable development of the agroindustrial complex, central and local governments need to undertake a set of organisational and economic measures, including improved management, encouraging production specialisation, land reform and implementing alternative technologies to cut production costs and make products more attractive for domestic and foreign markets. Reforming the agricultural enterprises, particularly those that are operating at a loss or bankrupt, is an important precondition for progress in the agricultural sector. Another important precondition for improving levels of human development in rural areas is improving the social infrastructure and, in particular, improving housing opportunities for rural populations. Employment in agriculture should also be economically attractive. Wages in the sector still lag far behind the national averages. Their increase is possible only within the framework of long-term structural reforms, including reform of enterprise ownership structure and introduction of new incentive mechanisms (profit sharing plans, dividends on shared property, etc).

In Belarus, human development in general and the welfare of a particular family largely depend on the status of the family's employer. In addition, the financial status of enterprises has other kinds of indirect impact on households – many Belarusian cities have emerged and developed around a single large industry whose tax revenues are crucial for local budgets. Since the latter are the major source of financing for regional infrastructure and social sector development, financial prosperity or decline of the company affects broader social infrastructures. For example, it can have a profound effect on the salaries of public-sector employees, such as teachers, doctors, etc.

1.4. Environmental threats and development

History proves that, in terms of technocratic development, human civilisation has never been without conflict. In the infancy of mankind the main threats to development were related to nature; now they are more often caused by political, social, technological or environmental circumstances. The imbalance in the biosphere caused by human activities has given rise to environmental threats that could affect the vital interests of people, societies, countries and even the whole world community.

Implications and sources of environmental threats

Economic growth, albeit a driving force behind human development, is not an end in itself. It is an instrument for improving people's living conditions, achieving broader employment opportunities and more equitable income distribution, reducing poverty, and preserving the environment.

Economic growth depends heavily on natural resources. The status of the environment is, therefore,

crucial for the development process, which until recently had been based on "the conquest of nature" paradigm. Beyond a certain point of development, however, this paradigm becomes a threat because human activity can deplete natural resources to such an extent that it irreversibly affects the environmental status quo. When civilisation reaches this stage, it finds itself in an environmental crisis, which, if aggravated and globalised, could cause the extinction of civilisation as such.

These potential threats to mankind's survival underlie the significance of environmental security. Environmental security is as important an element of human security as meeting traditional needs. The right to a certain minimum of environmental security has been integrated into the essential living standards of modern society. The major distinctive feature of environmental security is that it is a collective benefit equally accessible or inaccessible to everyone. It is impossible to reduce the environmental threat for any specific individuals, groups of people, or areas, because nature knows no social, state or administrative borders. Damaging the environment has a boomerang effect. First, it affects public health – according to the World Health Organisation (WHO), ecological problems cause up to 30 percent of all diseases in the world. The globally expanding volumes of fixed (physical) capital increase the probability of environmental threats and related social and economic losses. Between five percent and 10 percent of the world's GDP is lost annually due to technological breakdowns and disasters. According to world statistics, 56 percent of major industrial catastrophes in the 20th century occurred within the last twenty years. They took a heavy toll of thousands of human lives, caused immeasurable damage to the environment, and led to billions of dollars in losses.

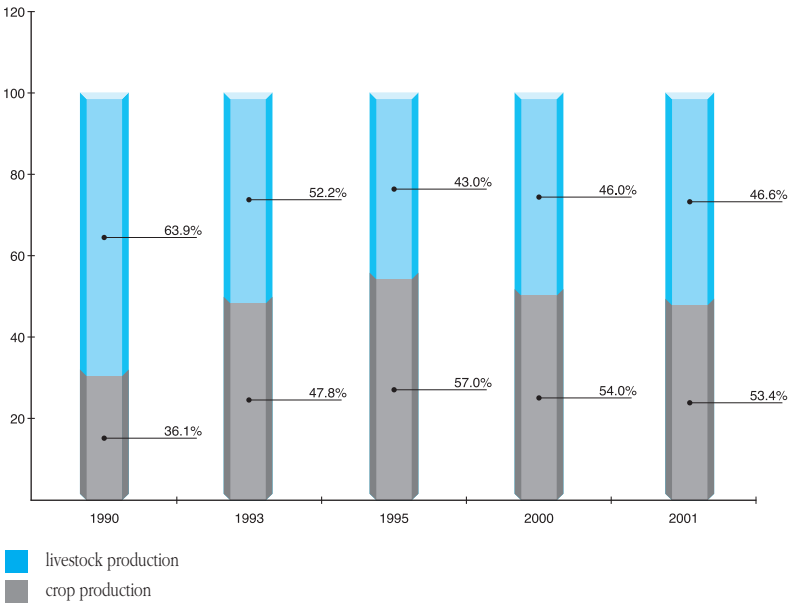
But technological disasters are not the only factor contributing to environmental insecurity. Existing industries, even when they operate accident-free, pose a serious ecological threat by producing large quantities of industrial waste that nature cannot absorb. Eventually, this could render the earth unsuitable for modern human civilisation.

Society typically ascribes the main ecological threat of the industrial sector to the generation of wastes, but it is hard to argue with the opinion that all end-products are in fact deferred or delayed waste.

Waste can be disposed of only in one way – by turning it into inputs or, in other words, by creating technological processes where all the industrial and consumption waste is continuously used and reused in recurring production cycles without ever leaving the system. Japan, the world leader in efficient inputs and waste management, currently reuses or recycles 210 million tons out of 2.6 billion tons of initial inputs, less than 10 percent. Even that would not have been possible without the economic restructuring that led to a reduction in Japanese industry's share of GDP from 50 percent in 1970 to 35 percent at the end of the 20th century. As was noted in the environmental report on

Figure 1.3.3

Changes in agricultural production mix by branch in public and private farms in the Republic of Belarus



Source: Statistical Yearbook of the Republic of Belarus. Minsk, 2003

Japan, the 1990s signified the establishment of the services industry, computerisation, and development of ecobusiness based on ecoefficiency, which implies resource saving schemes, the reduction of waste, recycling, longer operational lives of end-products, and reduction of the volume and distribution of toxic wastes in the environment. At the same time, Japanese ecologists stressed that despite the reduced share of primary, stabilisation of secondary and domination of tertiary industries, input flows tend to grow along with the total amount of waste and energy consumption per capita.

The same tendency is manifested by all the industrialised countries in spite of their enormous expenditures on environmental protection and resource saving technologies. In the late 20th century, the world encountered new environmental threats, such as ozone layer depletion, loss of biodiversity, cutting

Evaluation of the current environmental situation in the country shows the obvious improvement of quality indicators over the past decade

Box 1.4.1

Globalisation of the waste problem

Virtually everything created and used by human beings ends up as waste. Consumption waste or deferred waste appears within a few days or weeks after the production cycle (non-durable goods, mainly food stuffs) – or within dozens or even hundreds of years (e.g. buildings). Environmentally speaking, even the Egyptian pyramids and other archaeological artefacts are just long-term consumption waste.

In accordance with the law of the indestructibility of matter, once produced, waste cannot be destroyed. It can be buried, transferred from one physical state to another (e.g. turned into gas through the incineration of domestic waste), scattered in the environment (e.g. as gas, dust or soluble matter), reprocessed (e.g. toxic waste can be detoxified), or recycled, in which case the new product would eventually become waste again.

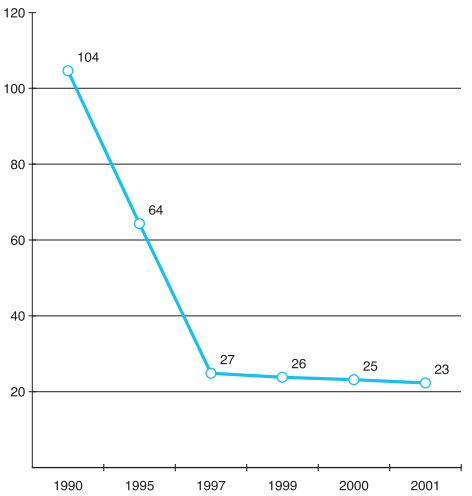
Thus, there are no "non-waste" or "environmentally sound" technologies, and the whole global economy is nothing but a mammoth waste-producing system. About 90 percent of all waste is solid matter, and just 10 percent is accounted for by gas or liquid waste.

Source: K.S. Losev, Environmental Problems and Sustainable Development in Russia in the 21st century. – Moscow: Kosmosinform, 2001. – pp. 26–27.

A decrease in human pressure on the environment against a background of continuously growing industrial output can plausibly be explained by the conservation efforts of the state and individual enterprises

Figure 1.4.1

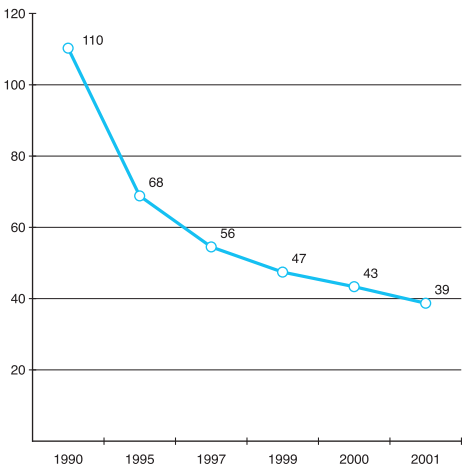
Effluent discharge into natural water bodies (mln m³)



Source: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. Ecological Bulletin "Status of Environment in Belarus". Minsk. 2002.

Figure 1.4.2

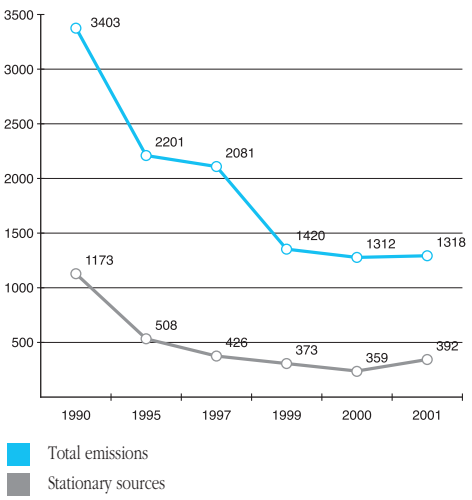
Decrease in lands degraded by non-agricultural activities (1,000 ha)



Source: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. Ecological Bulletin "Status of Environment in Belarus". Minsk. 2002.

Figure 1.4.3

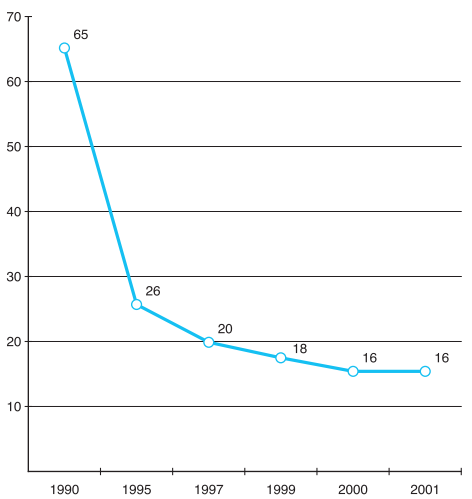
Release of air pollutants (1,000 tons)



Source: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. Ecological Bulletin "Status of Environment in Belarus". Minsk. 2002.

Figure 1.4.4

Emissions of sulphur and nitrogen (kg of SO_2 and NO_2 per capita)



Source: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. Ecological Bulletin "Status of Environment in Belarus". Minsk. 2002.

of relict forests, degradation of fertile soils, diffusion of highly toxic substances through food chains, devastating effects of genetic engineering, etc.

DYNAMICS OF ENVIRONMENTAL PROBLEMS IN BELARUS

Many years of prioritised development of environmentally unfriendly and high-waste technologies had become one of the most pressing threats to the national security of our country by the turn of the century. The nature and intensity of environmental problems Belarus was facing at the end of the 20th century were expounded in the National Human Development Report 2000. Evaluation of the current environmental situation in the country shows the obvious improvement of quality indicators over the past decade. World Bank experts arrived at the same conclusion in their 2002 report entitled "Building Blocks for a Sustainable Future, A Selected Review of Environment and Natural Resource Management in Belarus". Nonetheless, it is hard to agree with another finding of that report, which ascribes environmental recovery primarily to the reduction of economic activities, and, to a much lesser extent, to targeted conservation measures. Indeed, since 1991 industrial production had been in a downswing for half a decade thus minimising its

adverse effects on the environment. However, starting in 1996, Belarus' industrial output has been gradually increasing, although waste production continued to decline. For instance, during the period of 1996–2000, while GDP increased 1.36 times and industrial output 1.6 times, air pollutant emissions decreased by 40 percent, effluent discharge by 60 percent, and degraded lands by 37 percent. According to official statistics, virtually all environmental parameters have greatly improved since the early 1990s with the exception of the radiological situation, where no dramatic improvement is feasible in the foreseeable future. Consequently, a decrease in human pressure on the environment against a background of continuously growing industrial output can plausibly be explained by the conservation efforts of the state and individual enterprises.

In 2001, Belarus managed to exceed its 1990 industrial output by 6.1 percent and consumer goods production by 16.4 percent, while water extraction (from both surface and underground sources) was reduced by over 1 million m^3 and industrial water consumption decreased almost twofold (1,001.8 million m^3 in 1990, 523.5 million m^3 in 2001). Effluent discharge into natural bodies of water was reduced accordingly and the total amount of effluent discharge has decreased fourfold over the past ten years. All of this was possible owing chiefly to specific organisational and economic interventions, such as commercialisation of water consumption and distribution, introduction of utility meters, etc.

Reduction of effluent discharge also improved the water quality in surface water and reservoirs. The integrated water quality assessment based on hydrochemical indicators is defined by the Water Pollution Index (WPI) which specifies seven grades of water pollution: from very clean (Grade I – WPI ≤ 3) to extremely polluted (Grade VII – WPI >10). According to this indicator, water in the majority of rivers at monitoring sites ranked as moderately polluted (Grade III). The Svisloch River was an exception, with its water classified as polluted (Grade V). On the whole, barely 10 percent of Belarus' bodies of water fall into the polluted category.

Objective-oriented environmental activities also resulted in positive improvements in air quality during the period 1996–2000. Despite the growth of industrial output and power engineering, and a considerable increase in the number of automobiles – the main sources of air pollution – the total pollutant emissions decreased by more than 40 percent. Many factors contributed to such an improvement, including:

- energy efficiency policy;
- an increased share of foreign automobiles in the total number of cars (more environmentally friendly than Russian or Ukrainian ones);
- termination of leaded fuel production in Belarus and the transfer of all automobiles to unleaded gasoline use;
- reduction of sulphur content from 0.2 percent to 0.05 percent in diesel fuel produced by the Mozyr Oil Refinery; and
- tighter state control of vehicle exhaust.

The analysis of all environmental components and the parameters of industrial pressure on ecosystems leads to the conclusion that the past decade signified a reduction of adverse human impact on the environment in Belarus (Figures 1.4.1, 1.4.2, 1.4.3, 1.4.4). Of course, the improved indicators of traditional environmental pollution show obvious progress in the ecological and economic development of the country. Unfortunately, the results of this progress on human health as an integrated indicator of environmental security have been insignificant. First, it concerns the most disadvantaged region of Belarus, which includes the areas contaminated with radionuclides. In

Radioactive contamination of 23 percent of Belarusian territory, even 17 years after the Chernobyl NPP accident, still poses a serious environmental threat to the population

Table 1.4.1

Thyroid cancer in Belarus

Before the Chernobyl NPP accident			After the Chernobyl NPP accident		
Years	Adults	Children	Years	Adults	Children
1977	121	2	1986	162	2
1978	97	2	1987	202	4
1979	101	—	1988	207	5
1980	127	—	1989	226	7
1981	132	1	1990	289	29
1982	131	1	1991	340	59
1983	136	—	1992	416	66
1984	139	—	1993	512	79
1985	148	1	1994	553	82
			1995	3720	462
			1996	4066	508
Total	1131	7	Total	10693	1303

Source: A.M. Kabushko, Economic prerequisites of environmental security. Minsk, 2001.

Box 1.4.2.

Big problems from small radiation doses

Lately such radio-ecological problems as the intensified motility of Sr90, the transition of Pu241 into the more hazardous Am241, and the decay of "hot" particles accompanied by a release of radionuclides entering the food chain have been registered. At the same time, nearly 70 percent of the collective dose is accumulated due to the introduction of radionuclides through food. Clean food production at individual farms of the Gomel, Mogilev and Brest Regions is still a challenging task. Samples of milk, dairy products, meat, vegetables, and potatoes taken from them often show an exceedingly high level of radionuclides. All this invariably contributes to additional internal irradiation.

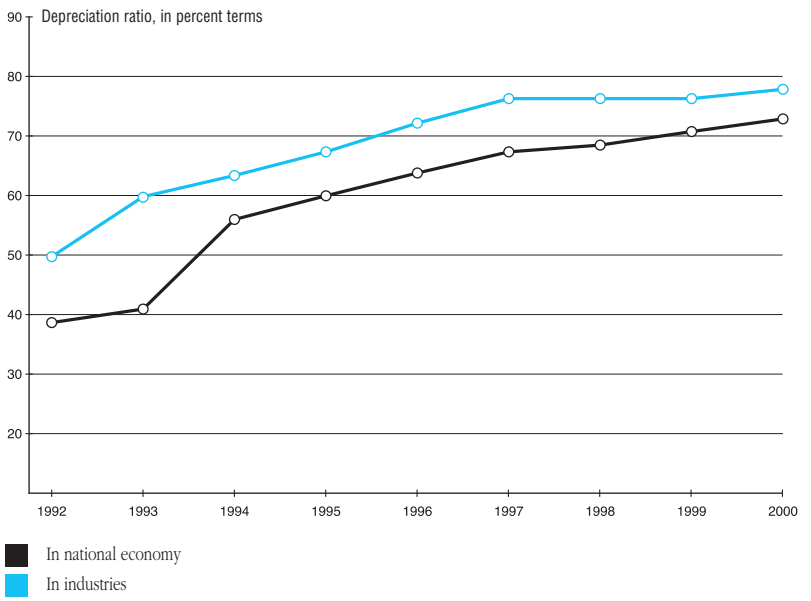
Exposure to radiation, psychological stress and other negative effects worsen the health of the population in the affected areas, especially the children. Research results show that long-term exposure to, small doses of radiation enhances the organism's vulnerability to other potentially damaging elements such as lead, nitrates, etc. Thus, the high-risk group would include, along with the "clean-up workers" and evacuated population, the residents of the affected areas.

Some researchers maintain that a radiation dose received by an organism over a long period of time is more harmful than the same dose received in a shorter period (the so-called Petko effect).

Source: 15 Years After the Chernobyl Disaster: Its Consequences for Belarus and their Mitigation. National Report / Edited by V.E. Shevchuk, V.L. Gurachevski. – Minsk: Trioleta, 2001.

Figure 1.4.5

Depreciation of fixed assets in Belarus



Source: Sustainable Development Strategy of Belarus: Traditions and Renewal. Minsk. 2003."

In addition to the Chernobyl problem, outdated technologies and a 70–80 percent level of depreciation of fixed assets characterise the high level of ecological risk of the Belarusian economy

these areas, according to healthcare statistics, the rates for many types of diseases exceed national averages.

The UNDP/UNICEF report "Human Consequences of the Chernobyl Disaster. Recovery Strategy" states that the biological effects of radiation are still largely unknown and scientists do not have a shared opinion about the health effects of "Chernobyl-type" radiation. It is clear is that some of the effects can be manifested with a delay of up to dozens of years after initial radiation exposure, so further scientific research is imperative. The above report, as well as a number of other publications by independent foreign experts, frequently mention that the exposure to small doses of radiation is not dangerous for the inhabitants of the affected areas and that the high officially reported morbidity rates could be the result of poor living conditions, an unbalanced diet, an unhealthy lifestyle, poverty, alcohol abuse and the so-called "screening effect". The large-scale screening programmes implemented in the affected areas did not cover the rest of the country, which, according to foreign experts, revealed the incidence of some diseases which otherwise would not have been included in the statistics. While being sceptical about the direct relationship between many health problems and radioactive contamination, experts still recognise an obvious link between the dramatic increase of thyroid cancer in children and teenagers and the radiation exposure. Thyroid cancer is a disease rarely found in children, but as a result of radioactive iodine exposure the number of children that contracted it within 10 years after the accident was 186 times greater than within the 14 years prior to it (the same indicator increased almost tenfold for adults, Table 1.4.1). The above-mentioned report assumes that a significant growth of thyroid neoplasms is possible for at least 50 years after the initial exposure.

Radioactive contamination of 23 percent of Belarusian territory, even 17 years after the Chernobyl NPP accident, still poses a serious environmental threat to the population. Although now, according to the experts, the external radiation emissions in almost all the affected areas are quite low, the so-called "internal dose" received through food and water has not been reduced as effectively. Contaminated food and water, inhalation of radioactive particles produced by forest and peat fires, and household heating with contaminated fuel remain the principal sources of health-damaging internal irradiation.

The post-Chernobyl environmental threats shaped state policy, reflected in the State Programme of Belarus on the Mitigation of Consequences of the Chernobyl Nuclear Power Plant Accident for 2001–2005 and to 2010. The main objectives of the programme are to create and ensure safe living conditions amidst an unfavourable radio-ecological environment, to foster a sound economic climate and to implement measures necessary to reduce radiation doses. The effects of Chernobyl will remain a long-term problem for Belarus. It is imperative to implement the measures outlined in the programme to mitigate to the extent possible environmental and humanitarian consequences of the tragedy.

THREATS NOT RELATED TO RADIATION

The Chernobyl problem, however, is not the only barrier to sustainable development through better ecology. The low efficiency of industries, outdated technologies, and a 70–80 percent level of depreciation of fixed assets characterise the high level of ecological risk of the Belarusian economy and represent a danger of possible industrial emergencies and accidents with serious environmental consequences. Over forty-eight percent (48.2 percent) of the most common technologies used in Belarus were developed before 1985, whereas only 23 percent originated in the period 1995–2000. The average life span of tech-

Table 1.4.2

Pollutant discharges and accidental environmental pollution registered by environmental agencies in Belarus

Years	Total number of cases	Including			Damage (mln roubles)
		Water pollution	Atmospheric pollution	Land pollution	
1990	29	29	—	—	4.8
1995	22	19	3	—	41,542.0
1996	30	28	1	1	8,111.5
1997	43	35	6	2	5,579.0
2001	270	92	178	—	147.3*

* adjusted for denomination

Source: Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. Ecological Bulletin "Status of Environment in Belarus". Minsk. 2002.

nologies in the country is 20–30 years, while in the United States, technologies in the high-tech branches of the economy are renewed every five years. Under the current renewal rate of production facilities, the largely archaic technical capacity in Belarus displays a tendency for gradual degradation and disintegration. The lack of investment decelerates the modernisation of technologies and hampers the retooling of industries. The growing depreciation of fixed assets (Figure 1.4.5) makes any forecast on the improvement of technological capacity in the mid-term inadequate. The consequence of this process has been a rise in emergency situations over the past few years, as reflected in the official statistical data on environmental pollution in Table 1.4.2.

International experience has shown that the greatest ecological danger comes from possible accidents at nuclear power plants, chemical factories, explosives manufacturing facilities and during transport. Belarus has a large number of such facilities, representing a potential threat to the environmental security of the population. The country is home to over 500 hazardous chemical enterprises that produce and use more than 50,000 tons of virulent, poisonous substances and over 400 explosive and fire-risk sites, including: gas-fuel handling facilities, heat and power stations, oil tank sites, paint and varnish plants, gasoline storage facilities, peat-extracting enterprises, flax plants, timber mills, military depots and thousands of kilometres of gas and oil pipelines. Given that the reduction in likelihood of any single emergency (e.g. plane crash, railway accident, dam break, explosion at a chemical or nuclear plant) usually makes the consequences of that emergency, if it eventually occurs, much worse, and bearing in mind the deterioration of our production facilities and ineffective accident prevention work, it can be deduced that the industrial capacity of the country is a real ecological threat. Belarus' Ministry of Emergency Management has analysed recent industrial accidents that have taken place in Belarus and confirmed their tendency to grow.

Unfortunately, there is no adequate methodology for making a precise evaluation of ecological and economic damage to the environment by industry whether it takes place in accident-free mode of operation or as a result of an emergency. As a result, all existing estimates are very approximate. Yet, the budget allocation for the prevention and management of emergencies and natural disasters of 1.15 percent of GDP (in 2001) is obviously insufficient. Even by conservative estimates, in the absence of accidents, normal environmental damage caused by industries stands at no less than four percent of GDP.

RESPONDING TO ENVIRONMENTAL THREATS

At present, environmental threats can be addressed only through technological solutions implemented within an integrated system of incentives and disincentives that brings economic benefits for environmentally friendly behaviour. A prerequisite for the establishment of such a system are legal requirements related to the quality of the environment that are supported by the mandatory observance of the fundamental principle of "polluter pays". Even though the relevant experience of economically developed countries shows that full elimination of environmental threats is not viable yet (they exist even in post-industrial societies), it is necessary to limit them to a level not exceeding ecosystem sustainability. Only innovative development can ensure environmental sustainability by helping to create environmentally friendly (as friendly as possible) and resource saving technologies.

Undoubtedly, any innovation involving the environmental modification of technologies, resource savings and waste reduction invariably leads to some economic effect manifested in additional income generated through the saving of resources, materials, energy, etc. Therefore, it is obvious that ecoefficiency and innovative development are interrelated.

Sufficient investment in innovation is an essential requirement for its successful development. For a variety of reasons, however, Belarus has recently witnessed a shrinking share of investment in GDP – from 23.5 percent in 1998 to 16.6 percent in 2002. Funds from legal entities are still the main source of investment, but as long as the number of loss-making enterprises in the country is growing, it would be unwise to expect growth in investment in the near future. The technical retooling of the economy is also hampered by an exceptionally low level of foreign investment and credit, apparently the result of a rather unfavourable investment climate in the country. This explains why the radical restructuring of the economy, based on the technical retooling of its branches and the introduction of environmentally sound energy-and-resource-saving technologies, have not been implemented in Belarus yet.

Thus, the environmental improvements of the past decade in Belarus made possible by the efforts of environmental agencies, other governmental bodies and individual enterprises, have not succeeded in eliminating the existing environmental threats. In order to ensure public environmental security based on sustainable development principles, Belarus must still

At present, environmental threats can be addressed only through technological solutions implemented within an integrated system of incentives and disincentives that brings economic benefits for environmentally friendly behaviour

Box 1.4.3

Growing threats of solid waste to environmental security in Belarus

Industrial consumption and the production of solid waste now represent an increasing threat to the environmental security of the Republic of Belarus. As of January 1, 2001, the total amount of accumulated solid waste in Belarus equalled 684.6 million tons (by the beginning of 2002 – 723.1 million tons, – author's note). The prevailing share of industrial waste is comprised of halite wastes: 590.6 million tons or 86.3 percent. The rest is represented mainly by halite sludge, phosphogypsum, and hydrolytic lignin. In 2000 alone, Belarusian enterprises generated over 23 million tons of industrial waste, with only 3.6 million tons being recycled. The bulk of waste was transported to specialised waste storage facilities (waste yards, sludge tanks, salt settlers, tailing dumps). Also, a considerable portion of wastes was disposed of at urban dumping grounds for solid waste. Unfortunately, sometimes industrial waste is incinerated or transported to sandpits, ravines, and other undesignated and environmentally unfriendly waste storage sites.

Source: Environmental Security: Socio–economic Aspects. Minsk, 2003.

resolve a great deal of problems related to hardships of the transition period, post-Soviet crisis management, and the fundamental updating of economic policy within the framework of a socially-oriented market economy.

CHAPTER 2

Resources and Prospects for Adequate Responses

2.1. Wise management of natural capital

Natural resources and environmental conditions largely determine human development. Forests, land, water and mineral resources are very important for the economic and social development of every country. The UN Millennium Declaration lists "respect for nature" as one of the fundamental values instrumental for the development of international relations in the 21st century. Thus, "prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of sustainable development. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants".

In the past decade, the World Bank and the International Monetary Fund have been developing a broad concept of national wealth that includes both human and natural capital. Using the analogy of a traditional notion of "capital", natural capital generates flows of resources used by the economy and is regarded as a commodity. Natural capital can also perform environmental services, such as the assimilation of waste and industrial emissions, water flow regulation, prevention of soil erosion, etc.

A variety of statistical methods are used internationally for the assessment of natural resources. The UN Statistical Commission, for instance, recommends market valuation, a method widely used by market economies that allows the assessment of natural capital based on the current market value of public benefits derived from the use of nature in a particular country. Despite discussions on the applicability and practicality of cost assessments for natural resources, the official statistics of many countries recognise the need to look at natural capital as part of national wealth.

Unfortunately, assessment of the national wealth of the Republic of Belarus takes into consideration neither natural capital (e.g. the value of lands, mineral deposits and forests) nor human capital. At present, the national capital of Belarus, as reflected in the country's statistics, includes only the material wealth produced by human labour that is currently available to the society. Depending on their economic purpose, the elements of national wealth fall into the following groups: fixed assets, circulating assets, and private property. Still, available data on the structure of national wealth and natural capital in other countries make some estimates possible for Belarus (Tables 2.1.1; 2.1.2). Based on these estimations, it is possible to assume that more than half of Belarus' national wealth is made up of human capital, while natural capital constitutes more than 10 percent.

Although the natural resources of Belarus are not the basis for its economic development (which is the

More than half of Belarus' national wealth is made up of human capital, while natural capital constitutes more than 10 percent

Box 2.1.1

Wise management of natural resources for economic and social development

Human activities have an increasingly greater impact on the integrity of ecosystems that provide vital resources and services for human and economic development. Sustainable and integrated management of natural resources is essential for sustainable development in general. Thus, in order to overpower the existing tendency of natural resources degradation, it is necessary to implement strategies that include national and, where relevant, regional target indicators for the conservation of ecosystems, integrated management of land, water and bio-resources, and local, regional and national capacity building.

Source: Implementation plan for the decisions of the World Summit on Sustainable Development, August 26 –September 4, 2002, Johannesburg (South Africa).

Table 2.1.1

National wealth of various countries in the late 20th century

Countries	Total amount, in trillions of USD	Per capita amount, in thousands of USD	Ratio of capitals, as percentage of total		
			Human capital	Natural capital	Reproducible capital
USA	124	460	77	4	19
Russia	59	400	50	40	10
Japan	54	420	68	1	31
China	35	28	77	7	16
Germany	31	375	75	1	23
France	21	360	56	7	37
Italy	17	295	73	1	26
India	12	20	58	20	22
Canada	6	300	69	11	20
Austria	6	320	66	12	23
Saudi Arabia	3.5	170	40	42	18
Venezuela	2.6	110	49	7	44
Chile	2.3	150	79	10	12
Finland	1.6	320	56	7	37
Norway	1.3	300	57	10	33
New Zealand	1.0	280	59	18	23
Total for 16 countries	377	255	65	13	22

Source: "Voprosy Statistiki"; 2001.

Table 2.1.2

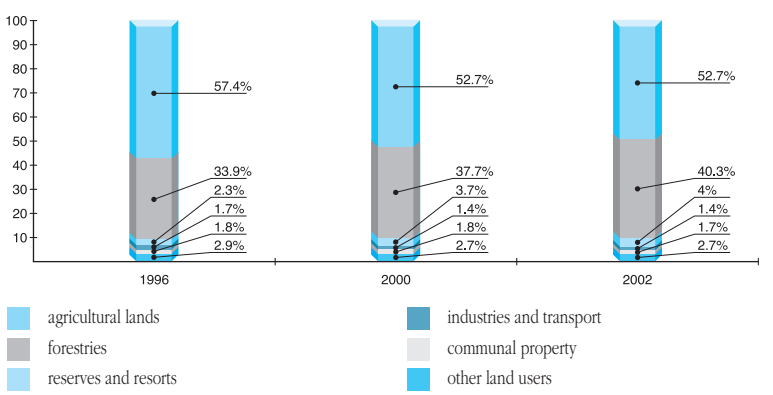
Natural capital of various countries in the late 20th century

Countries	Natural capital		As percentage of the total				
			Lands		Forests		
	total, in trillions USD	per capita, in thousands USD	total	arable lands	total	protected forests	mineral resources
USA	4.6	16.5	60	44	20	8	19
Japan	0.3	2.3	64	59	34	21	2
Germany	0.3	4.2	61	51	31	18	8
France	0.5	8.1	81	64	19	9	1
United Kingdom	0.3	4.9	68	37	16	14	15
Italy	0.2	3.4	84	71	11	7	5
Canada	1.1	36.6	33	27	49	19	18
Russia	24	160	15	10	15	5	65
Spain	0.2	5.7	80	64	18	7	3
Sweden	0.1	14.6	33	30	64	16	3
Austria	0.1	7.6	52	32	46	25	21

Source: "Voprosy Statistiki";2002.

Figure 2.1.1

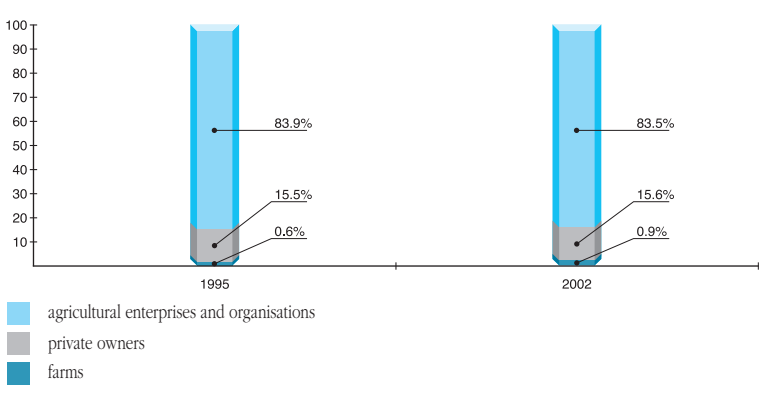
Land distribution in Belarus by land use categories (as a percentage of the total, by the beginning of the year)



Source: Statistical Yearbook of the Republic of Belarus, Minsk, 2002.

Figure 2.1.2

Agricultural land distribution by land-users (as a percentage of the total, by the beginning of the year)



Source: Statistical Yearbook of the Republic of Belarus, Minsk, 2002

case for the OPEC countries, Russia and a number of other states), they are still an important factor for industrial development and are essential for maintaining favourable living conditions for the country's inhabitants.

The main type of natural capital in Belarus is land. Its flat plains offer favourable conditions for human settlement, agricultural activities, industrial infrastructure, transport, communications, tourism and recreation. The total land area of the country has been the same for dozens of years and is currently 20,760,000 hectares, including 10,360,000 hectares of agricultural land with 5,663,000 hectares of arable land.

The arable lands of Belarus have relatively low natural fertility due to the low content of nutrients in the humus layer, which is thin, highly acidic, rocky and erosive. This low fertility is an important barrier to increasing productivity in the agricultural sector. Erosion is another challenge because erosive soils are 15–50 percent less productive than non-erosive soils. In Belarus, eroded and erosion-prone soils account for more than 2.3 million hectares, or more than 22 percent of agricultural lands.

In the past, anti-erosion activities in Belarus have covered an area of over 600,000 hectares. In recent years, however, their intensity has drastically dropped. The share of agricultural lands has also been decreasing (Figure 2.1.1), primarily as a result of transferring forest parks and other land belonging to agricultural organisations to forestries. This land has been overgrown with shrubbery, waterlogged, or designated for construction sites, industries, transport, or conservation. Incidentally, by the beginning of 2002, the share of natural reserves and resorts in the total land area of the country had increased since 1995 from 2.3 percent to four percent.

Land in the Republic of Belarus is predominantly state-owned. Over the past few years, the overall picture in the field of ownership has not been changed significantly (Figure 2.1.2).

Wise management of land resources is impossible without improved land laws and equal opportunities for different forms of ownership and business relationships.

Forests – an important element of Belarus' natural capital – cover more than one third of its territory. According to the state forest inventory (taken every 5–7 years), as of January 1, 2001, the total area covered by forests equalled 7,851,000 hectares, with an estimated wood yield of 1,340 million m^3. The annual growth in wood yield exceeds 28 million m^3. The per capita figures are 0.8 hectares of forest and 135 m^3 of standing wood, respectively. This is much higher than in European countries, where (with the exception of Russia) the average per capita share is less than 0.3 hectares of forest and about 30 m^3 of growing stock. Unlike other natural resources (mineral deposits, underground water), forests, if managed wisely, are renewable in the long term. Belarusian forests also

boast rich supplies of wild berries, mushrooms, nuts, herbs, technical materials, and valuable hunting fauna. They are also important for human development in that their sanitary and recreational properties can improve people's physical and mental health. The riches of the forest are an important source of diverse commercial products as well.

Still, forest management has a number of unresolved problems related primarily to the unbalanced development of the timber industry, especially in the advanced stages of wood processing. The intensity of timber utilisation in Belarus is quite low: about one percent of the total stock and less than 50 percent of the annual gain. Due to underdeveloped wood biomass for energy purposes processing inferior timber and most of the wood waste is not utilised at all.

Water resources are another important element of natural capital and have an obvious impact on human development through the availability and quality of water. The supply of water resources in Belarus is relatively high. The country's territory is a water divide for the catchment areas of the Baltic and Black Seas and includes 20,800 rivers with a total combined length of 90,600 kilometres; 10,800 lakes; and 153 manmade water reservoirs, the largest of which – the Vileyka Reservoir – covers 79.2 km^2.

Surface water resources chiefly depend on the aggregate river flow, amounting to 57.9 km^3 in an average year. Most of the river flow (about 59 percent) is generated within the country's borders. The rivers of the Black Sea basin (the Dnieper, Sozh, Pripyat) produce about 55 percent of the annual flow, while the Baltic Sea rivers (the Western Dvina, Neman, Viliya and Western Boug) are responsible for 45 percent.

Lakes simultaneously regulate underground and surface flows. The backbone of lacustrine resources is comprised of the lakes larger than 0.1 km^2 (1,072 water reservoirs) with a total capacity of 6–7km^3. The aggregate water volume of reservoirs can reach 3.1 km^3 with effective storage of 1.24 km^3. Reservoir resources are used for irrigation and the water supply of big cities (reservoirs of Vileyka and Soligorsk).

Belarus has considerable underground water resources in three categories: fresh potable (salt content less than 1 gram of solutes in 1 dm^3 of water), mineral (table and medicinal water), and salt water with salt content ranging from 35 to 500 grams per dm^3. The major underground water deposits with a reserve volume of over 40–50 thousand m^3/day are located in the vicinity of the big industrial centres and cities of Minsk, Gomel, Vitebsk and Grodno Regions.

Water consumption regulation and protection of water resources from all types of pollution are central to the wise management of water resources. While the volume of surface and underground waters is quite sufficient (the annual water extraction for various purposes does not exceed five to six percent of the total volume), communal wastewater, as well as snow and rain runoff from urban and agricultural sites, still pollute them. Over the past few years, the fresh water consumption in Belarus has stabilised (Table 2.1.3; Figure 2.1.3). Underground waters are generally utilised for the everyday needs of urban and rural populations, as well as for food processing and light industries. The per capita consumption of fresh water in cities is 180–370 litres per day, which is much greater than in most European countries (120–150 litres per day).

Table 2.1.3

Fresh water use in Belarus (millions m^3)

Indicators	1990	1995	1996	1997	1998	1999	2000	2001
Total amount	2,790	1,878	1,781	1,726	1,716	1,709	1,700	1,705
including:								
irrigation and agricultural water supply	401	286	195	181	172	166	160	154
industrial needs excluding agricultural use[1]	1,698	891	813	760	751	757	758	757
public-utility and drinking	691	701	773	785	793	786	782	794

[1]Industrial water consumption includes water utilised by fish ponds (234 million m^3 in 2001)
Source: Statistical Yearbook of the Republic of Belarus, Minsk, 2002

Sixty-eight sanatoriums, resorts, health and recreational centres, spas, mud-baths, and clinics utilise the medicinal brine and mineral water of diverse compositions and properties extracted from more than 100 deposits. Specialised factories bottle nearly 40 brands of mineral water. In terms of their therapeutic effects, Belarusian brines measure up to the imported bischofite and salt water of the Dead Sea.

One of the principal types of natural capital are mineral resources, whose wise management is essential for the sustainable development of the real sector of the economy and ultimately for human capacity building as well. Belarus has over 4,000 deposits of mineral resources with varying degrees of exploration.

Potassium and rock salt account for Belarus' main mineral wealth. The potassium lode will accommodate the needs of industry for more than 100 years, while the rock salt deposits are virtually inexhaustible. The currently explored mineral resources fully satisfy the needs of the country for potassium and common salt, lime, cement, ceramic and refractory clay, sand, gravel and building stones.

As a whole, Belarus has nearly 600 explored and integrated, non-metallic mineral deposits, approximately half of which are being exploited, with the rest kept in reserve. Hundreds of minor construction material deposits are also being explored to accommodate local needs.

Among energy resources found in Belarus are deposits of oil, natural gas, peat, brown coal, and oil shale. To date, Belarus has extracted a total of 108 million tons of oil, while the estimated residue stock is 63

The currently explored mineral resources fully satisfy the needs of the country for potassium and common salt, lime, cement, ceramic and refractory clay, sand, gravel and building stones

million tons, including 36 million of hard-to-recover oil. For the last decade, the annual oil extraction in Belarus has been about 1.82 million tons. The explored reserves of natural gas, extracted simultaneously with oil, are estimated at 8.1 billion m^3, with an annual extraction rate of 252 million m^3.

Aside from the above-mentioned mineral deposits, several others have been found that require the use of advanced technologies for extraction. The prospective reserves of brown coal exceed 1.3 billion tons, while the commercial reserves are 124.4 million tons. The possible resources of oil shale deposits in Belarus exceed 10 billion tons. The preliminary exploration of the Okolovo deposit of ferruginous quartzite indicates a 500 million ton capacity at a depth of 700 meters. The Pripyat Depression contains bauxite-dawsonite ores used for the production of aluminium and soda. The Belarusian land can potentially yield phosphorite, copper, titanium, zirconium, diamonds, mercury, amber, gypsum, silicide, lanthanide, non-ferrous metals, and rare and trace elements whose existence has already been identified.

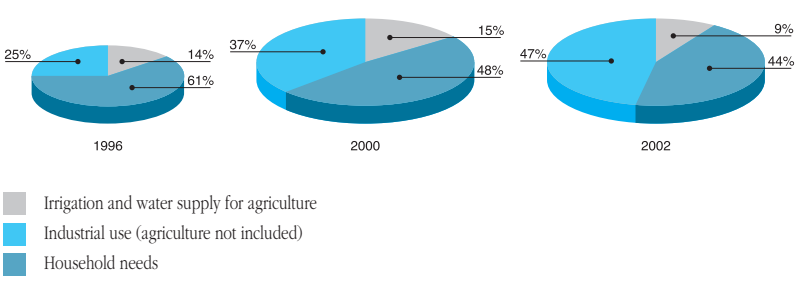
In order to secure the efficient management of the natural capital in the interests of human development it is necessary to incorporate natural and human capital into the official statistical data on the national wealth of the Republic of Belarus

A more efficient utilisation of the Belarusian mineral resources in the interest of human development requires a variety of improvements, including: consistent and integrated exploration of the country's depths; more comprehensive prospecting efforts; integrated, economical and efficient use of the extracted materials; fewer losses in mining, transit, and processing; the reduction of waste, its recycling and disposal; capitalisation on the accompanying elements; and the minimisation of the mining industry's negative environmental impact.

Belarus' flora and fauna are also very diverse. Despite an insignificant share of biological resources in natural capital, they play an invaluable role in human development. Currently, Belarus has about twelve thousand registered plant and fungus species, including 28 trees, 42 shrubs, and over 820 types of grasses. The existing ecological, social and political environment of Belarus favours the formation and conservation of a range of the endangered and rare European ecosystems, along with some specific plant and animal species.

Figure 2.1.3

Fresh water use in Belarus



Source: Statistical Yearbook of the Republic of Belarus, Minsk, 2002

Vegetation resources are a valuable source for food, medicinal herbs, and technical inputs. Specific properties of over 500 plant species make them useful for the national economy. The total biological capacity of these plants in Belarus approaches 1 million tons, of which only five to eight percent are being used.

The wise management, reproduction and conservation of vegetation are topical issues of sustainable development. The encouragement of respectful attitudes towards nature and the introduction of licenses for treatment of wild vegetation could play a crucial role in this regard.

There are 457 vertebrates and over 20 thousand invertebrate species of animal life represented in Belarus. Among them are 73 kinds of mammals, including the unique European Bison. The ichthyofauna consists of 59 species. There are several key commercial mammals in Belarus, including moose, wild boar, roe deer, hares, squirrels, wolves and foxes. Other important species are deer, beaver, muskrat, the American mink, and the marten. Valuable edible fish include such species as pike, bream, pike-perch, eel, etc.

A number of normative legal acts regulate the conservation and use of animals in Belarus, the basic one being the Law of the Republic of Belarus "On Conservation and Use of Animals" (adopted in 1996). The law creates an organisational and financial framework for the effective conservation of animals and their habitats, and helps design hunting quotas and an applicable system of payments.

Efficient management of the flora and fauna in the interests of human development and the strengthening of their role in natural capital requires not only conservation efforts, but also enhancement of the reproduction capacity of biological resources. The main priorities here are regulation and control of the collection of vegetation, hunting, fishing, and enforcement of anti-poaching measures. Additionally, it is necessary to incorporate natural and human capital into the official statistical data on the national wealth of the Republic of Belarus. For that purpose, the problems related to the costing methodology, including an evaluation of the main elements of natural capital, should be given highest priority. Proper accounting of the real value of natural wealth would make natural resource management economically and environmentally more sustainable.

2.2. PHYSICAL CAPITAL: CURRENT STATUS AND GROWTH PROSPECTS

GDP has grown considerably in recent years in Belarus primarily due to a combination of organisational factors such as increasing administrative pressure on enterprises, improved discipline and responsibility, development of economic relationships with Russia within the Union State framework, and others. Manufacturing in the country has been stimulated through expansionistic monetary policy. However,

these growth factors are hardly sustainable in the long run. Apart from an enabling institutional environment, continuous modernisation of both physical capital (fixed and current assets) and intangible assets is necessary for long-term sustainable economic growth. This can be only achieved by expediting structural changes, privatisation, and small- and medium-sized enterprise development.

FIXED ASSETS AND THEIR EFFICIENCY

Currently, the Republic of Belarus possesses impressive physical capital totalling 127,500 trillion roubles (data valid as of January 1, 2002), an amount equivalent to 7.5 times the country's gross domestic product. Of this, fixed assets represent about 91 percent and tangible current assets nine percent. However, the country's fixed assets can hardly be described as having optimal growth rate, renewal and qualitative characteristics. Table 2.2.1 shows that the total value of fixed capital has remained practically unchanged over the past decade in Belarus, but the proportion attributed to the manufacturing sector decreased, while the service sector's share increased. It is difficult to accurately assess the status of fixed assets, because it all depends on their physical condition. In the former Soviet Union, before its disintegration, extensive production with a high renewal rate prevailed, but was based on obsolete technologies and a low write-off rate. Apparently, this has led to Belarus' declining productivity causing it to lag behind the developed countries.

Table 2.2.1

Fixed assets value index by sector (in comparable prices as a percentage of 1990)

Assets	1991	1995	1996	1997	1998	1999	2000	2001
Fixed assets, total	103.6	103.4	103.7	104.1	104.7	104.5	104.7	104.3
including:								
Fixed assets in manufacturing sectors	104.1	103.9	103.8	103.4	103.3	102.9	102.8	102.3
Particularly in:								
Industry	103.4	103.4	103.2	103.1	103.5	103.6	104.1	103.8
Agriculture	104.7	104.3	104.0	102.7	102.1	101.0	100.4	99.9
Construction	107.7	107.1	108.4	109.5	107.1	106.8	105.5	104.9
Fixed assets in services sectors	103.0	102.9	103.7	105	106.5	106.6	107.2	106.9
Particularly in:								
Transport and communications	103.2	103.2	106.3	108.2	107.8	107.9	108.3	108.4
Trade, public catering facilities, maintenance supply	102.1	101.9	102.7	103.2	105.4	105.1	104.0	101.7
Housing	102.9	101.4	99.4	102.7	106.2	105.6	107.0	106.1

Source: Ministry of Statistics and Analysis of the Republic of Belarus

FIXED CAPITAL RENEWAL

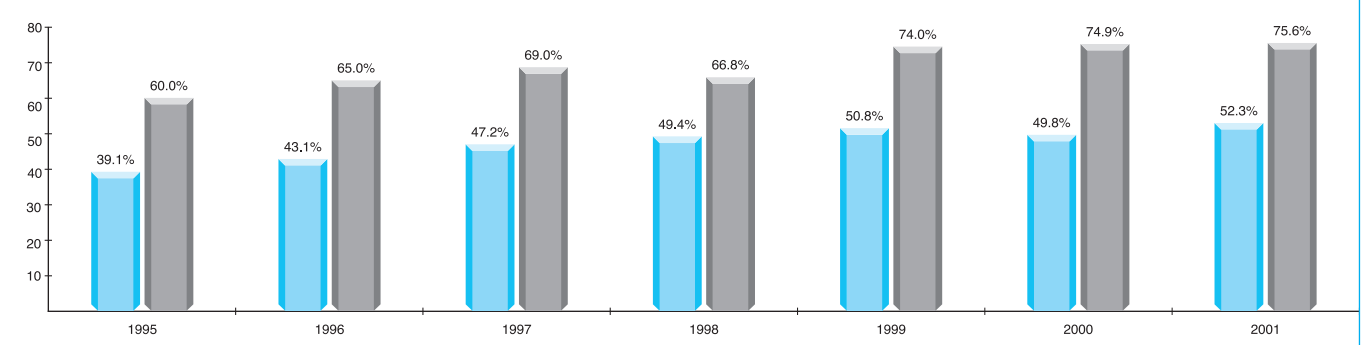
A sharp decline in fixed capital's renewal rate and a virtually invariable retirement rate are typical of the present state of production in the country. This is illustrated by observing the trends in rates over the past decade and a half. Before the onset of economic transition, the industry renewal rate was six to eight percent, then fell dramatically in the 1990s reaching only 1.5 percent three years ago and is currently back up somewhat at 2.4 percent. This means that if a decade ago complete fixed assets replenishment was feasible within 12–16 years, with the current rate of renewal it would take 42–66 years. In fact, it would take even longer in certain sectors such as petrochemicals, engineering and metal working since their renewal factors are the lowest in the country.

Low renewal, write-off and retirement rates of fixed assets result in growing obsolescence. In this sense, fixed assets used in production are of special concern

Continuous modernisation of both physical capital (fixed and current assets) and intangible assets can be only achieved by expediting structural changes, privatisation, and small- and medium-sized enterprise development

Figure 2.2.1

Fixed assets depreciation in the Belarusian economy



Source: Ministry of Statistics and Analysis of the Republic of Belarus

Table 2.2.2

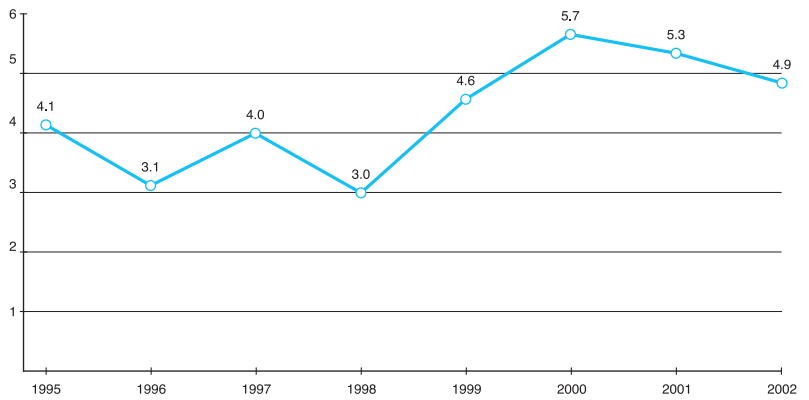
Structure of non-cash current assets in the economy of Belarus (as a percentage, by the end of the year)

Indicators	1995	1996	1997	1998	1999	2000	2001	2002
Inventory	35.2	44.6	48.0	42.5	43.1	34.3	34.4	33.8
Work-in-process	6.6	7.5	7.6	6.3	8.2	7.1	7.0	7.0
Finished goods	9.9	8.0	7.9	9.3	10.1	8.5	9.8	9.6
Goods shipped	35.0	30.5	26.1	21.7	22.5	21.0	22.9	23.3
Goods for resale	7.5	6.4	9.2	8.7	10.3	6.5	6.5	7.5

Source: Ministry of Statistics and Analysis of the Republic of Belarus

Figure 2.2.2

Turnover rate of current assets in the Belarusian economy



Source: Ministry of Statistics and Analysis of the Republic of Belarus

Box 2.2.1

How do investors feel in Belarus?

The National Program of Investment Attraction of Belarus to 2010 includes a set of long-term legal, economic and organisational measures aiming to put in place conditions conducive to foreign investment.

It is obvious at this point that in order to successfully achieve the set targets, the Investment Code of the Republic of Belarus needs to be revised and improved. In particular, this need becomes more evident following the results of a poll conducted in January and February at the request of the Advisory Council on Foreign Investments under the Council of Ministers of Belarus. The poll coverage included 100 registered commercial organisations with foreign investments and representatives of foreign companies from Great Britain, Germany, China, Russia, USA, Switzerland and other countries. Of corporate participants in the poll, 56 percent were joint ventures, 34 percent foreign enterprises, and 10 percent representative offices. 71 percent of them have been operating in Belarus for over five years, 17 percent from three to five years and 11 percent from one to two years. In the upshot, 59 percent of those polled described the investment climate in Belarus as bad and 20 percent as very bad.

Furthermore, 82.5 percent of those polled believe that, as investors, they feel worse in Belarus than in other countries where they have worked before. Only 1.5 percent believe that the conditions in Belarus are better than in Russia and Ukraine, while 6 percent equate the investment climate in Belarus to that in Turkmenistan.

According to the respondents, too many economic and legal controls hamper the flow of investment into the country.

As it turned out in the course of the poll, in most cases the respondents solve their problems by making a deal with a particular official without leaning on the press, trade unions, business associations, courts or other government bodies for support.

A majority of the respondents did not notice any positive changes in legislation and economic life recently. Those who did feel these changes mostly favoured the stabilisation of exchange rates. Other areas deserving approval in their opinion are curbed inflation, the adoption of laws relating to investment policy, curtailment in the number of activities requiring a license, reduction of profit tax, and pricing and payroll accounting liberalisation.

Source: E. Zamurueva "Where is the Money to Renew Fixed Assets" //East & West Journal (Bulletin of Foreign Economic Activities) № 4 (52) / 2003.

(Figure 2.2.1). According to statistics, the level of fixed assets obsolescence in the economy has generally exceeded the threshold of economic security (60 percent) and continues to grow. The situation is particularly alarming in the petrochemical industry (obsolescence is 85.4 percent), engineering and metal working (84.7 percent), construction materials industry (76.3 percent), light industry (79.3 percent), construction (79.1 percent) and agriculture (79 percent). This high level of obsolescence not only undermines the competitiveness of the national economy and its growth potential, but also leads to environmental and occupational hazards as workers are required to use worn out means of production with a high accident rate. This is then also accompanied by increasing maintenance costs.

Meanwhile, materials and tools play an exceptionally important role in market economies. For this reason, fixed assets stock is increasing worldwide and is constantly upgraded. Investment is key to this process.

In recent years, the share of fixed assets investment in Belarus was within the range of 16–18 percent of GDP. For a developed country, this share would suffice to allow normal renewal of machinery and equipment on the basis of new technological developments. However, as noted above, this is not the case in Belarus since GDP is disproportionately low with regard to the book value of fixed assets. In other words, the aforementioned investment share would be sufficient for a country with a considerably larger GDP and/or a lower value of fixed assets generating it. Hence, what Belarus needs is higher productivity from the currently available fixed assets. However, the current performance rate of machinery and equipment is low and the use of manufacturing capacities is insufficient. The result is products that are not competitive in terms of price or quality. Improving capital productivity is impossible without additional investment and restructuring of production.

A substantial increase in gross savings and a growing share of investment in GDP could potentially be a source of investment. This could be achieved, first, through reduction of final consumption, and, second, through increasing foreign direct investment. The first option is limited when living standards are low and people are poor. It can be achieved only gradually while keeping the increase in the gross savings rate higher than any increase in final consumption. However, even in this case fixed assets renewal cannot be achieved since it would require a twofold increase of investment as a proportion of GDP. Hence, the significance of foreign direct investment becomes even greater.

Increases in investment provide huge opportunities for fixed assets renewal. It is advisable to foster the emerging tendency of increased investments in manufacturing with a growing share of investment in machinery, equipment and tools.

Reducing the amount of uncompleted construction projects could also effectively increase fixed assets

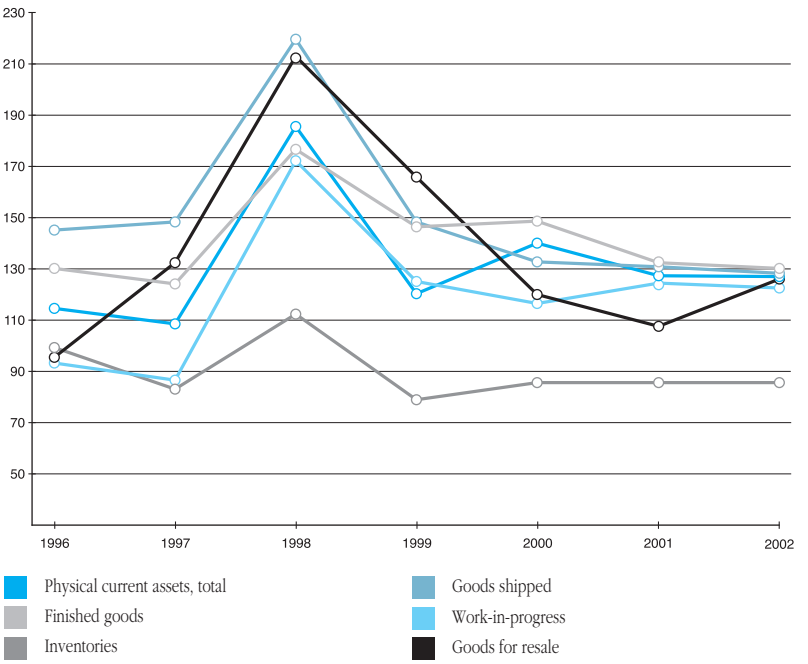
stock. As January 1, 2003 data suggests, 17,045 sites fall into the category "construction in progress," with 8,353 of them being industrial sites. According to this data, the balance sheet value of uncompleted construction sites amounted to 4,175 billion roubles, almost the size of the entire national annual investment program. The enormous amount of uncompleted construction is an outcome of the socialist habit of squandering capital investment when financial resources are actually scarce.

Under the existing circumstances there are four possible alternatives for addressing this issue. The first is to declare a moratorium on the inclusion of new sites into the investment program. The second is to sell off the sites or attempt to attract foreign investors interested in completing them. The third option could be temporary closure and conservation of such sites with the possibility of resuming construction later on. The final option is to simply dismantle these hopeless and cost-ineffective construction sites. Currently, the Government of Belarus has endorsed a draft program on the reduction of excessive construction-in-progress for the period 2003–2005, designed to somewhat curtail the volume of uncompleted construction.

If fixed assets value and structure are to match GDP volume, eliminating idle capacity is advisable. When fixed capital stock is not effectively used, or not used at all, it is a heavy burden on a company, setting it back financially and requiring higher prices. The authorities impose depreciation and property taxes on the unused equipment. This approach biases cost structure and makes potentially profitable enterprises operate at a loss. Meanwhile, private entrepreneurs lacking start-up capital could lease this equipment. Lease-based sale and privatisation of specific production sectors could both reduce the share of unused fixed assets and foster private sector development. If such options are not feasible, idle capacity should be written off of company books to ease the tax and depreciation burdens.

Figure 2.2.3

Current assets of enterprises and organisations in comparable prices (1995 – 100 percent)



Source: Ministry of Statistics and Analysis of the Republic of Belarus

FOREIGN INVESTMENTS AND THE INVESTMENT CLIMATE

The second way of increasing gross savings is more acceptable since it is not related to decreasing consumption in the country. Not only do foreign investments increase imports to the country, they also lead to higher utilisation of local capacities and, as a result, encourage GDP and consumption growth. Moreover, as experience shows, foreign investment generates higher returns because it normally brings with it more advanced technologies and efficient management.

To bring investment into the country, the government or other actors must offer a favourable investment climate based on a set of social, economic, legal and political provisions. In Belarus, the investment climate is steadily improving, but is still far from perfect. At the same time, to attract investment primarily from abroad, it is necessary to speed up consistent reforms that improve the investment, institutional and macroeconomic climate. Reliable guarantees for foreign and private investors' property protection are necessary, as well as removal of administrative barriers to business start-up and development. The following factors are also very important: ensuring the proper functioning of key institutions regulating financial and economic relationships and improving their quality; pro-actively supporting market infrastructure; and improving credit opportunities and the reliability of the banking system through bank privatisation and the sale of state-owned shares in non-resident banks. It is crucial to keep inflation low and ensure national currency stability along with its full convertibility. A functioning real estate market needs to be established by expanding land ownership rights, easing the tax burden and putting in place an investment risk insurance system. Finally, the more need for foreign investment should be more widely publicised, including intensified cooperation with international financial institutions.

In Belarus, the investment climate is steadily improving, but is still far from perfect

The experience of other countries suggests that foreign investors are more willing to invest in state-owned medium and large enterprises. Given the fact that this process is still at its onset in Belarus, accelerating privatisation could bring tangible results. The progressing ageing of assets and the related decline of industries' competitiveness is an additional argument for speeding up the process considerably.

In setting its investment priorities, the state should shift its emphasis towards the renewal of core industries. Privatisation of other industries should be

Box 2.3.1

Social capital: modern definitions

"Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense, social capital is closely related to what some have called 'civic virtue'. The difference is that 'social capital' calls attention to the fact that civic virtue is most powerful when embedded in a sense network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital"

Source: Putnam, R. D. (2000) Bowling Alone. The Collapse and Revival of the American Community, New York: Simon and Schuster.

"Social capital consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible"

Source: Cohen, D. and Prusak, L. (2001) In Good Company. How Social Capital Makes Organizations Work, Boston, Ma.: Harvard Business School Press.

transparent in order to ensure the monitoring of relevant commitments. Although it could lead to job cuts, investment in new technologies should take priority. Short-term growth in unemployment is a price that must be paid for the dramatic modernisation of the economy.

Domestic investments are also very important for the renewal and modernisation of fixed assets. They should be increased through a new depreciation policy, leasing promotion, cutting interest rates and allocation of budgetary funds via tendering of investment projects.

The major precondition for physical capital expansion and its improved efficiency in Belarus is enterprise restructuring and foreign investment in the country

Current assets and their efficiency

Non-cash current assets, notwithstanding their small share in the capital structure, play a significant role in ensuring the consistent and reliable operation of enterprises. They include inventory, work-in-progress, finished goods in the warehouse, shipped goods, goods for resale and material reserves (Table 2.2.2).

Efficient current assets are those that speedily move from one stage of the production process to another – from circulation to production and then back to circulation. A faster turnover of assets decreases physical and financial resources tied up in a single cycle, providing opportunities for production expansion without involving additional resources. Hence, a higher turnover rate improves companies' financial performance and reduces their indebtedness.

The current assets turnover analysis (Figure 2.2.2) shows a combination of upward and downward fluctuations in recent years caused by a range of factors that determine the production and sales process. In general, however, the turnover rate is increasing, albeit unsteadily. The improvement is attributed primarily to the ever-increasing budget pressure on enterprises to achieve optimal inventories of raw materials, work-in-progress and finished goods.

Statistical data (Figure 2.2.3) indicates that non-monetary current assets have been changing fairly evenly, except for the crisis year of 1998. With a generally increasing rate of turnover, their physical volume, however, did not correspond to growing production rates. More importantly, in the last two years the volume of current assets has somewhat decreased as a result of cash-flow shortages, increased receivables and difficulties in selling Belarusian-made products. This means, on the one hand, that the share of finished goods in the current assets structure is increasing. On the other hand, due to relatively low sales revenues, the resulting deficit of funds make it difficult for enterprises to achieve an optimal input supply.

The lack of current assets, which directors of Belarusian state enterprises complain so much about, is to a great extent a structural problem created by shortcomings in production (including management and marketing) and the poor competitiveness of products and services. If the excessive stock of finished goods and work-in-progress of many enterprises were slimmed down, it would considerably increase the volume of other current assets such as raw materials, parts, etc. Poor competitiveness of products and high production costs lead to low profitability and losses. It makes the production process fairly difficult, if not impossible, since enterprises do not have enough funds to complete each new production cycle. Similar factors restrict the growth of borrowed current assets as indebted enterprises usually do not qualify for further bank loans. Thus, one of the keys to solving the problem of current assets supply is improving the competitiveness of goods and services in terms of cost, pricing and quality – impossible without expeditious structural reform and increased capital investment.

To summarise, the major precondition for physical capital expansion and its improved efficiency in Belarus is enterprise restructuring and fresh investment in the country. For that purpose, a favourable investment climate (macroeconomic and institutional environment, infrastructure) is necessary in order to encourage potential internal and external investors to invest in the Belarusian economy.

Box 2.3.2

Belarus Enjoys Religious Stability, says Chair of the Committee on Religions and Nationalities under of the Council of Ministers of Belarus, S. Buko.

"Belarus enjoys religious stability. All religious denominations work on equal terms," – these were the opening words of Chair of the Committee on Religions and Nationalities under of the Council of Ministers of Belarus, S. Buko, at a press conference organised for national and foreign journalists at the National Press Centre. According to him, as of August 1, 2002, Belarus already had 2,830 religious communities, and 26 denominations and sects, while in 1988 there were only 768 communities and 9 denominations. According to studies conducted by the Institute of Sociology of the National Academy of Sciences in 1999, nearly 50 percent of the Belarusian population claims to be under the influence of religion, 80 percent of believers call themselves adherents of the Russian Orthodox Church, 14 percent - Catholics, two percent - Protestants…"

Source: Minutes of the press conference of August 20, 2002 // visit the site of the Belarusian Press Centre (http://www.bpc.by).

2.3. Social capital: basic concepts and the Belarusian context

Modern concept of social capital

The term "social capital" originally appeared in the

late 19th and early 20th centuries, but a clear understanding of the concept has taken shape only in the last 15–20 years largely due to efforts of sociologists, economists, political scientists and anthropologists. Still, even now, judging by the numerous publications prepared with the assistance of the World Bank, IMF, UNDP, and other specialised UN agencies, the concept of social capital continues to develop.

In its broadest sense, the notion 'social capital' embraces a combination of "institutions, relationships, attitudes, and values that govern interactions between people and contribute to economic and social development". There are also other definitions that flesh out some of the aspects of that multifaceted notion.

Social capital is in many respects different from physical and human capital. The core of physical capital are visible and tangible assets. For this reason, the quantity of these assets, as well as any changes in physical capital (investments, depreciation, deterioration, etc.) are relatively easy to measure. The same, with some reservations, is true for human capital. Social capital is much more difficult to measure.

One attribute which differentiates social from physical capital, but makes it akin to human capital, is that social assets do not depreciate during their use, but rather multiply. Degradation of social capital usually occurs because it is not used. At the same time, unlike human capital, the social assets (e.g. trust, traditions) cannot be created single-handedly.

Social capital plays a very important role in laying reliable foundations for sustainable human development, since it encourages the accumulation of new tangible assets and human capital and ensures effective utilisation of existing capital. The greatest economic contribution of social capital to development is through a considerable reduction of transaction costs. A society with more intensive social capital build-up enjoys better dissemination of knowledge, lower circulation costs, and a higher return on investments in physical and human capitals.

The modern literature categorises social capital into different types. There is 'structural social capital' defined as relatively objective and usually observable social structures, such as networks, associations, institutions and the rules and procedures that they represent. The second category, known as 'cognitive social capital', embraces more subjective and physically intangible elements, such as shared values, norms, trust, and beliefs. The nature of social capital also depends on the level of its formation (replenishment, development, and, if affected by some negative factors, disintegration and reduction). Social capital assumes different forms at different levels:

- the micro-level – in small and large social groups, families and households, hobby clubs and professional associations, enterprises;
- the medium level – industries, local and regional communities; and
- the macro-level – national and international communities.

Some publications try to give another dimension to the concept of social capital with dichotomies such as "traditional/informal – modern/formal" or "easily changeable – hardly changeable".

Accumulation of social capital is not always positive or creative. Sometimes the creation of new social assets leads to the subversion of traditions and values prevalent in a given society. Examples of this include the formation of drug cartels, criminal or corrupted structures, terrorist organisations, destructive religious sects, etc. This type of capital is then called antisocial.

SOCIAL CAPITAL OF BELARUS: TOLERANCE AND TRUST IN PEOPLE

When discussing the Belarusian national mentality, national and foreign publications often apply such attributes as: credulous, tolerant, lenient, amenable, friendly and moderate. One might ask whether these characteristics are corroborated by the results of objective research, whether they are historically justified, and whether they really describe Belarusian social capital.

Environmental, geographic, geopolitical, cultural, historic, religious and other factors determine the nature of the Belarusian mentality. Belarus is located in the centre of Europe and has always been a multi-

Belarus is located in the centre of Europe and has always been a multi-ethnic and multi-religious society

Table 2.3.1

Number of political parties, trade unions and other public organisations

Institutions	As of January 1				
	1998	1999	2000	2001	2002
Total	1062	1261	830	933	1014
including:					
Political parties	41	43	17	18	18
Trade unions	41	45	38	39	39
National public associations	7	11	15	19	24
Foreign communities	19	27	–	–	–
Youth associations	73	85	53	45	56
- Children's associations as a subset of youth	45	47	12	8	14
Women's associations	17	23	17	14	16
Environmental, historical and cultural NGOs	97	104	5	16	34
Sports associations	146	159	134	142	142
Artistic unions	30	34	11	24	17
Scientific associations	151	168	79	105	95
Educational and recreational NGOs	31	54	29	148	190
Charitable organisations	118	154	157	129	135
Public associations of disabled war veterans and workers	26	28	22	36	85
NGO unions	–	–	–	19	14
Other non-governmental associations	265	326	253	179	149

Source: Statistical yearbooks of Belarus for 1998–2002 / Ministry of Statistics and Analysis of the Republic of Belarus.

Box 2.3.3

Selected results of the opinion poll conducted among leading Belarusian public figures and experts by representing IISEPS in February 2003

(66 persons polled representeding both governmental and non-governmental sectors in equal shares, including policymakers, editors-in-chief, scientists, and businessmen)

Do you trust the following governmental institutions and NGOs?

Institutions	Yes	No	Don't know	Index of trust*
Independent research centers	80	11	9	+0.697
Non-governmental media	58	23	19	+0.348
Associations of bussinessmen	51	23	26	+0.288
Catholic church	30	32	38	–0.015
Protestant church	29	32	39	–0.031
Army	33	43	24	–0.091
Free and independent trade unions	29	38	33	–0.091
Political opposition parties	32	44	24	–0.121
Constitutional Court	26	56	18	–0.303
Governmental research cetres	20	54	26	–0.359
Government	13	67	20	–0.530
Orthodox church	15	70	15	–0.545
Governmental media	12	74	14	–0.621
KGB	9	76	15	–0.667
Courts	9	76	15	–0.667
President	12	80	8	–0.682
Trade unions of the Trade Union Federation	3	71	26	–0.692
Police	11	82	7	–0.712
Local executive committees	8	80	12	–0.738
Central Election Commission	8	82	10	–0.754
Local Deputy Councils	5	80	15	–0.758
National Assembly	5	83	12	–0.788
Pro-governmental political parties	5	86	9	–0.818

Do you trust the following media?

Media	Yes	No	Don't know	Index of trust*
Belarusian non-governmental press	56	20	24	+0.364
FM radio stations (BA, Alpha-Radio, etc.)	47	20	33	+0.277
Western radio stations	40	15	45	+0.246
Russian television	45	26	29	+0.197
Western television	30	12	58	+0.185
Polish television	29	11	60	+0.185
Russian radio stations	38	23	39	+0.159
Russian press	40	27	33	+0.121
Ukrainian television	18	14	68	+0.046
Belarusian governmental press	9	83	8	–0.742
Belarusian television	9	85	6	–0.758
Belarusian governmental radio	8	88	4	–0.803

* The index of trust can vary within the range of +1 to –1 and is calculated based on the total sum of positive ("Yes") and negative ("No") answers divided by the number of respondents who answered the question.
Source: The information posted on the IISEPS site on April 5, 2003 (http://www.iiseps.by/press1.html).

ethnic and multi-religious society consisting primarily of Belarusians, Russians, Poles and Ukrainians. Its population has also included Lithuanians, Latvians, Czechs, Slovaks, Jews, Tartars and others.

Currently, Belarus has 26 officially registered religions and religious denominations. The predominant five and also the most ancient are: Russian Orthodoxy, which has existed in Belarus for over a thousand years; Catholicism, present for more than 700 years; Islam; Judaism 600 years old; and Lutheranism, present in the country for over 400 years (Box 2.3.2). The centuries-long coexistence of many religions has fostered important components of Belarusian social capital such as tolerance for other people's beliefs. The recent religious revival could make a positive contribution to further expansion of tolerance and to the social and political stability of the country. The state should strive to maintain and strengthen the existing religious stability and peaceful relations between denominations in the future.

THIRD SECTOR DEVELOPMENT, TRUST IN GOVERNMENTAL AND NON-GOVERMENTAL ORGANISATIONS

An important feature of a country's social capital and a manifestation of citizens' ability to take independent action is the development rate of nongovernmental organisations, political parties, trade unions, and other public associations that constitute the so-called 'third sector'. In fact, they began developing rather intensively in Belarus right after the Soviet Union's collapse. Then, after the two official re-registrations in 1995 and 1999, the number of non-commercial organisations decreased dramatically, but over the past two or three years has inched up again.

Some groups of organisations went through rather drastic quantitative changes (Table 2.3.1). During the period 1998–2000, the number of environmental, historical and cultural NGOs decreased by 2.9 times, political parties by 2.3, artistic unions by 1.8, scientific associations by 1.6, and youth associations by 1.3 times. Within the same period, the number of educational and recreational NGOs increased more than six-fold, national public associations by 3.4, and public associations of disabled war veterans and workers by 3.3 times.

Public opinion polls conducted by various sociological services give a general idea of the level of public trust enjoyed by various Belarusian governmental institutions, political parties, religious associations and NGOs. For instance, the results of an opinion poll conducted by the Independent Institute of Socio-Economic and Political Studies (IISEPS) in February 2003 indicate that among the most trusted organisations in Belarus are independent research centres, non-governmental media, and associations of businessmen. However, the trust assessments done by governmental institutions and NGOs performing other sociological services often show considerably different results when compared to those produced by the IISEPS. For this reason and others, Belarusians tend to

distrust public opinion polls.

Sociological monitoring of political parties' popularity conducted within the past year or two by the Independent Institute of Socio-Economic and Political Studies, Presidential Institute of Socio-Political Studies, Minsk Research Institute of Social, Economic and Political Problems, and other organisations shows multifaceted and often diverse pictures depending on the context and time of the specific research, but all of them suggest that so far Belarus' civil society is still in the process of its development. The same applies to the political scene in that there is no single party consistently trusted by a considerable majority of citizens.

ANTISOCIAL CAPITAL

Statistical information about the crime rate in Belarus indicates that along with positive processes and the enhancement of social capital, the country's social assets are also suffering negative and destructive changes. A major concern arises from a dramatic (1.8 times) increase in the total crime rate registered within the period 1990–2001. Even if the increase is mainly a by-product of a more efficient system of registration, it is still certain that some types of crimes are alarmingly widespread. For instance, drug-related crimes have increased by 11.6 times, robberies by 8.6 times and fraud by 4.7 times. There has been considerable growth of large-scale economic crimes as well. In order to curb their further growth during denationalisation and privatisation, these processes should be carried out as openly and transparently as possible.

It is obvious that antisocial capital, just like social capital, can develop in all strata of Belarusian society. Thus, for its neutralisation, it is imperative to foster trust and mutual understanding between people at all social levels, starting with the support of families, the promotion of shared values at individual enterprises and organisations, local and regional communities, the development of partnerships between state bodies, NGOs and the private sector, and confidence building and co-operation development at the international level.

2.4. ENHANCING THE EFFICACY AND COMPETITIVENESS OF THE ECONOMY

Economic growth is a necessary precondition for poverty eradication. Development of the real sector of the economy, which accounts for over 85 percent of the country's GDP and post-1995 economic growth, has helped to curb the spread of large-scale poverty. In 1999, more than 46 percent of the total population had disposable income lower than the subsistence minimum. In 2001, this share dropped to 28.9 percent, a record low since 1995 (Table 3.1.1). However, the situation deteriorated slightly in 2002, when the share of people living below subsistence level rose to 30.5 percent.

The socio-economic development programme of Belarus for the period 2001–2005 calls for an average annual GDP growth rate of 6.2–7 percent. Such growth rates would provide both economic opportunities for the poor and possibilities for financial and physical capital expansion. In addition, it is appropriate to devote more resources generated by economic growth to improving living standards, and particularly, to healthcare, education and professional requalification.

Nevertheless, the current economic indicators are insufficient to ensure the envisaged improvement of public welfare in the country. Moreover, a number of

Belarus' civil society is still in the process of its development. The same applies to the political scene in that there is no single party consistently trusted by a considerable majority of citizens

Table 2.4.1

Country ranking by composite competitiveness index, human development index and real GDP per capita

Country	Competitiveness level		For additional reference*				
	Composite index	Ranking among 18 countries	GDP per capita (PPS US $) 2000	Rank among		HDI rank among	
				18 countries	174 countries	18 countries	174 countries
Austria	1.0	3	26,765	1	9	4	5
Belarus	0.564	17	7,544	13	62	14	56
Russia	0.678	10	8,377	12	57	15	60
Ukraine	0.620	14	3,816	18	97	18	80
Kazakhstan	0.636	12	5,871	16	76	17	79
Lithuania	0.572	16	7,106	14	64	12	49
Latvia	0.594	15	7,045	15	65	13	53
Estonia	0.854	6	10,066	10	47	11	42
Germany	0.950	4	25,103	3	13	5	17
France	0.867	5	24,223	5	17	3	12
Italy	0.737	9	23,626	6	18	6	20
Netherlands	1.145	1	25,657	2	12	2	8
Sweden	1.051	2	24,277	4	16	1	2
Poland	0.633	13	9,051	11	52	10	37
Czech Republic	0.744	8	13,991	7	32	7	33
Slovakia	0.759	7	11,243	9	45	9	36
Bulgaria	0.531	18	5,710	17	78	16	62
Hungary	0.674	11	12,414	8	42	8	35

Source: Human Development Report 2002; World Economic Forum – Global Competitiveness Report 2002–2003.

Box 2.4.1

On parameters of economic security

The analysis of economic security as it applies to small, developed countries shows that their strategic development goals are as follows:

- modernisation of the economy based on the specifics of a competitive environment;
- tighter focus on high-technology, non-serial, labour-intensive and high-quality products that cannot be produced in a large state as effectively;
- short-run production on order;
- production of goods requiring special technological solutions and a high level of manpower training;
- promotion of service exports;
- efficient use of the latest advances in technology and science.

Source: M.V. Myasnikovich State's Economic Security: How to Assess and Manage // Information Protection Management 2002. Vol. 6. № 1. Minsk–Moscow.

indicators suggest that the economic model of previous decades is obsolete and the time has come to restructure it. A broad analysis of Belarus' economic structure as it relates to the country's needs and as it compares with the developed economies of Europe leads to the following conclusions:

1. As for the production structure of Belarus' economy, the share of intermediate consumption in gross output is still high (54.6 percent in 2001), despite the improved intermediate product/gross value added ratios as compared to 1995. This indicates high levels of material and energy consumption per GDP unit – by some estimates, twice (or even more) the level of developed European economies.

Since 1995, the shares of final consumption and gross capital formation in GDP have stabilised at 77–80 percent and 22–25 percent respectively. However, the experience of fast-growing economies shows that for economic restructuring and modernisation, the share of gross capital formation should be 27–30 percent or more. Under the current circumstances, this would only be possible at the expense of public spending or if the inflow of foreign investments increased substantially.

A number of indicators suggest that the economic model of previous decades is obsolete and the time has come to restructure it

2. The share of gross employment attributable to the private sector in Belarus remains low. In 2001, private businesses employed 42.2 percent, including 0.6 percent in companies with foreign capital and 1.6 percent in companies with mixed foreign capital. Increasing the share of the private sector is not an end in itself. The private sector has proved to be more flexible and efficient in a number of industries.

A considerable gap exists between Belarus and economically developed countries in terms of small business's share in the GDP. The small- and medium-sized enterprise share here is approximately seven percent, whereas it exceeds 50 percent in developed countries. Small private business accounts for slightly over 10 percent of the total labour force employed in the economy.

There are different ways to increase the private sector's share, one of them being shock privatisation. Within the Belarusian context, however, it is more suitable to decrease the state sector's share through gradual but consistent expansion of small- and medium-sized business.

3. Commodity production accounts for a fairly large share of GDP in Belarus as compared to European countries. In 2001, it stood at 42.9 percent, including 26.1 percent in industry, 9.8 percent in agriculture and 5.9 percent in construction, whereas the share of services was low at 44.2 percent. In developed countries, services account for 60–70 percent of GDP and employment, positively affecting economic growth due to the high share of added value in their cost structure. The expansion of the private sector, particularly of small- and medium-sized enterprises in the services sector, is a promising way to improve the overall ratio of sectors.

4. According to experts' estimates, the Belarusian economy is comprised primarily of classic industrial production. The proportion of Belarusian industry devoted to post-industrial technologies (microelectronics, fibre-optics, telecommunications, biotechnology, space technology, fine chemistry, etc.) remains under 10 percent. It is precisely these technologies that hold a sizeable share in developed economies.

The existing structural disparities largely determine the low competitiveness and efficiency of the Belarusian economy. According to M. Porter's globally accepted methodology of competitiveness assessment, there are four determinants of a country's competitive advantage:

1. Availability of production factors, and in particular, the so-called developed specialised factors (scientific and technological expertise, a highly skilled labour force, infrastructure);

2. Sufficient internal demand for products of a specific sector which, depending on its scale and composition, could provide economies of scale, encourage innovations and quality improvement, and prompt companies to seek access to foreign markets;

3. The existence of competitive supply sectors (providing quick access to needed resources) and related sectors producing complimentary goods. On the basis of the interactions between them in the area of technology, marketing, servicing, and information exchange, clusters of national industries emerge; and

4. Company structure and the nature of competition, i.e. the economic conditions in the country specifying the patterns of company formation and management.

Success is possible only in sectors where all four determinants of competitive advantage are clearly present. The state plays a critical role in this process consistently pursuing its economic policy, affecting the production factors and internal demand, supply industries and related sectors, company structure, patterns of domestic competition and quality of goods.

The Economic Research Institute of the Ministry of Economy of Belarus has calculated the composite index of potential (macroeconomic) competitiveness for Belarus and 17 other countries, each of them ranked by this indicator (Table 2.4.1).

Analysis of the data presented in Table 2.4.1 proves that although Belarus ranks next to Lithuania, Latvia and Ukraine in economic competitiveness and other development indicators, its level of competitiveness is still insufficient.

In many ways, this is due to the fact that Belarus fails to capitalise on its potential competitive advantages, including:

- An advantageous economic, geographic and geopolitical location;
- A developed transportation network and production infrastructure in general;
- Considerable land, water and forest resources, a number of key mineral resources (potassium and rock salt, raw products for building materials, etc.);
- A well-developed construction industry;

Table 2.4.2

Key activities for improving competitiveness and economic restructuring priorities

Competitive advantages of the Republic of Belarus	Key activities to improve competitiveness	Economic restructuring priorities
High quality of human capital, low labour costs, efficient education and training systems	Provide budget support for education, science and innovations, and create an institutional framework for the efficient use of human capital	To develop high-technology and science-intensive industries, provide superior intellectual, scientific and educational services
Well-developed scientific and technological capabilities	Set up complex research and production centres and schools aimed at developing and using breakthrough technologies; and organise the manufacturing of new competitive products Allocate budget funds for the support of science and innovations, and adopt a system of relevant support activities for domestic commodity producers Support small, innovative business	To develop post-industrial technologies, ensuring access to the world marketplace and a growing share of added value
Advantageous economic and geographic location	Draw investment to the transportation and telecommunications infrastructure, develop transport corridors and modernise tracks and rolling stock. Create an institutional framework for making Belarusian transport services attractive	To develop services in transport and communications
Availability of competitive suppliers for domestic and foreign markets (producers of tractors, refrigerators, TV sets, alcoholic and non-alcoholic beverages, etc.)	Attract investment to support and improve competitiveness and create adequate institutional, macroeconomic, tax, fiscal and pricing conditions for competitive production. Develop a support system and related industries, and build management capacity	To develop relevant competitive and related industries
Presence of oil and gas pipelines running across the territory of Belarus	Attract investment to industries using organic materials and create conditions for increased oil and gas flow through Belarus	To develop oil and chemical industries
Developed production infrastructure	Develop a positive investment climate in terms of the institutional environment as a complementary condition for production development in Belarus	To increase the share of investment in the GDP structure
Use of integrated approaches to area development	Support and develop complementary sectors. Develop corporate bodies. Improve the institutional framework for peripheral production	To increase investment, support territorial specialisation, and integrate the approach to area development
Ample land resources, congenial climate for feed, flax and potato production	Attract investment for agricultural specialisation while meeting requirements for food security	To develop feed production, cattle breeding, potato and flax cultivation
Renewable forest resources in large quantities	Attract investment to intensify comprehensive wood processing, diversification and quality improvement	To develop woodworking, pulp and paper industries
Renewable fresh water resources (ground and surface) in large quantities	Define policies of conservation and commercial use and implement investment projects on water use for medicinal bathing and drinking purposes	To develop a network of sanatoriums, spas, and export-oriented production of superior quality beverages
Large potassium salt resources	Create new combined fertilisers, enter new markets, exercise state protectionism in foreign markets, retrofit and retool production	To develop potassium salt production and processing
Considerable resources of clay, cement, etc. for the building materials industry	Draw investment for production modernisation, quality improvement and product diversification	To make higher-quality bricks, facing stones, cement and other building materials
Cultural and historical sites, appealing natural landscape	Attract investment for tourist infrastructure development, conservation and the restoration of historical and cultural sites	Develop the tourist services sector

Source: Concept of Structural Transformations and Enhancement of Competitiveness of the Economy of Belarus. Research Economic Institute of the Ministry of Economy of the Republic of Belarus. 2003.

- Enormous technological capabilities;
- A multi-sectoral industrial complex;
- High educational levels, an inexpensive labour force and time-proven education and training systems;
- An integrated approach to spatial development; and
- Active foreign economic relations expanding the country's export market.

Notwithstanding, the Belarusian economy under-

Box 2.4.2

Human capacity calls for a priority focus

Human capacity is the mightiest tool in the hands of a country, solely capable by itself of turning things around, improving the economy and enhancing people's well-being. The origins of progress stem from the ability of man to acquire and assimilate new knowledge, and then use that knowledge to bring forth proposals, inventions and innovations of all kinds. The human being – full of energy, mercurial and creative – is a resource never to be depleted, and which a country must always rely on. The realisation full use of this resource depends on the degree of support provided by the state, family and social institutions afford to the process of human creative development, and how they engage a human being economically (for sustained economic growth is absent without occupation will to work). Proper conditions are necessary to take full advantage of the human resource. Defining these conditions and their implementation is the pivotal challenge for science, all branches of government, society and every individual in this day and age. Our country will flourish as soon as we successfully tackle this task.

Source: A. P. Voitovich. Modern-day Industry is Inoperative without Science//Belaruskaya Dumka, 2001.

The existing situation in the Belarusian economy calls for an integrated approach combining drastic structural reform, a decrease in state intervention, withdrawal from economic areas of secondary importance, a focus on key priority industries, growth of the private sector and deliberate attraction of foreign capital in science- and capital-intensive sectors within the context of a stable macroeconomic framework

utilises its promising competitive advantages. The favourable geographic and geopolitical position, for example, has not become an essential source of foreign currency revenues, which could come from commodities transit and passenger transport. This factor will play a more important role as integration between countries deepens.

The experience of developed countries suggests that technological capabilities and innovations are the most important and promising factors for shaping long-term competitive advantages in all sectors and areas of the economy. The National Academy of Sciences, an array of sectoral research institutes and higher educational facilities, and specific enterprises' research divisions constitute the scientific and technological capacity of Belarus. A range of high-tech and science-intensive industries are the primary contributors to the innovation capacity of the country. Despite serious cutbacks in the number of researchers, worsening logistical support and smaller funding compared to 1991, there is still sufficient science and technology capacity for further innovation in the country. The latter is a necessary precondition for its sustainable development.

The existing situation in the Belarusian economy calls for an integrated approach combining drastic structural reform, a decrease in state intervention, withdrawal from economic areas of secondary importance, a focus on key priority industries, growth of the private sector and deliberate attraction of foreign capital in science- and capital-intensive sectors within the context of a stable macroeconomic framework. The ability of Belarus to ensure a consistently high level of final consumption and gross capital formation per capita compared to other countries is the ultimate criterion of its competitiveness and structural harmony.

Therefore, to improve economic competitiveness, the Republic of Belarus should achieve the following priority objectives:

- create relevant and normative legal, financial and other macroeconomic frameworks to implement the structural transformation of the economy and improve its competitiveness;
- boost innovations and support advances in knowledge-intensive, high-technology, export-oriented industries;
- harmonise the volume and composition of export and import;
- reduce transaction costs of enterprises by developing commodities, services, labour and capital markets and building the infrastructure to support private enterprise;
- discontinue direct and cross subsidisation of loss-making enterprises and production, strictly enforce insolvency procedures and restructure inefficient sectors of the economy;
- facilitate reform of the real sector of the economy and improve its performance by creating competitive national level and inter-sectoral corporate entities, such as holding companies or other financial-industrial business groups that provide opportunities for vertical integration;
- develop and provide government support to small businesses occupying an important niche in the market of goods and services;
- streamline the performance of natural monopolies and encourage competition in non-monopolised segments of the economy; and
- formulate and implement social plans and industrial infrastructure improvement programmes encouraging both human capacity development and improvement of the competitiveness of different sectors and industries.

Table 2.4.2 outlines key activities intended to improve competitiveness based on available advantages and reflects desirable structural changes in the economy.

Advances in human development matched by rapid economic growth provide sustainable grounds for poverty alleviation. When resources generated through economic growth are consistently invested in human development, and when the growth model prompts demand for better skilled workers, it sets in motion a virtuous cycle of sustainable growth, improvement of human development conditions and reduction of poverty.

Social Solutions: New Realities and Modalities

3.1. Income Growth and Poverty Alleviation

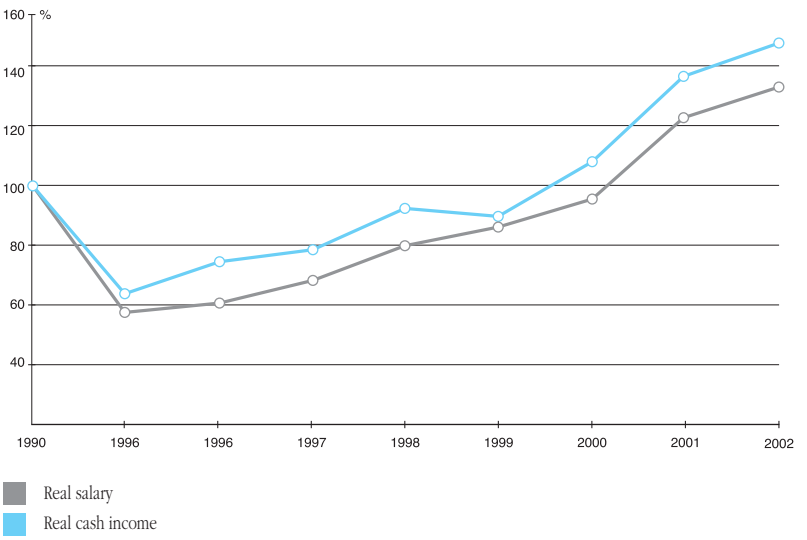
The trend of falling living standards in Belarus has been slowing since 1996. In 2002, real monetary incomes and salaries increased 2.4 times versus 1995. As compared to 1990, they constituted 148.3 percent and 134 percent respectively (Figure 3.1.1).

The salary share of GDP still remains low. It has ceased to perform its two key functions – regeneration of labour capabilities and incentive. Guaranteed state social minimum payments are extremely low, particularly the minimum wage. Population stratification by disposable income is becoming more and more evident. This is demonstrated by current statistics – the income ratio of the richest and the poorest segments of the population was 4.0 in 2002 and more than 30 percent of the country's population lives below the poverty line. Wage disparities among sectors continue, with the lowest salaries paid in the agricultural sector.

In the future, income policy adjustments should seek to improve living standards and reduce poverty nationwide, prevent deeper income gaps between various social groups and reinstate salaries as the key source of income and employment incentives. Fundamental prerequisites for these are intensive economic growth, higher labour productivity and efficiency of fixed assets. Only economic growth based on increased productivity can offer opportunities for sustainable reduction of poverty. At the same time, given the inevitable layoffs and growing unemployment caused by structural reforms, social safety nets should be strengthened to respond to the needs of the most vulnerable, expand the coverage afforded by social programmes, and target more actively the poorest segments of the population.

Figure 3.1.1

Real cash income and salary, 1990 – 100 percent



Source: Statistical Yearbook of the Republic of Belarus, Minsk, 2003.

Labour Remuneration Policy

Creating a new and efficient reward system based entirely on market mechanisms should become a policy priority. Salary is essential as the primary incentive of higher labour productivity and improved overall economic performance. An increase in salaries, however, is impossible if the current trend of overemployment (and in fact hidden unemployment) persists. The need for a review of priorities in this area is becoming increasingly urgent (for more details see section 3.2).

In this area, all three players (employees, employers and the state) have their own responsibilities. The state plays a remarkably important role in regulating the value of the labour force through the system of social standards and the regulation of minimum payments and transfers and, hence, profoundly influences the living standards of many employees and their families. Income policy reform should also take into consideration the inevitable shift of some social expenditures (coverage of social services, including utilities, or social security contributions) from the state budget and extra-budgetary sources to the households.

The state is to be responsible for setting and revising minimum wage rates, base wage rates of the Unified Scale of Rates for public-sector employees, and labour remuneration terms for employees of state enterprises and agencies. An important task of government income policies is to establish a comprehensive regulatory framework related to labour remuneration. In the near future, it will be necessary to draft and adopt a law on salary regulation in various industries of the economy stipulating the improvement of terms and conditions of remuneration for employees of public-sector and state-owned enterprises, and a gradual increase of basic wage rates to the minimum consumer budget level (MCB).

Despite the slowing trend of falling living standards, low salaries remain the major cause of poverty in Belarus

Table 3.1.1

Minimum consumer budget and subsistence level

Indicators	1995	1998	1999	2000	2001	2002
Minimum consumer budget per capita per month (thousands of roubles)	706.9	3,599.3	16,813.5	46.7[1)]	82.9	129.3
Subsistence budget per capita per mounth (thousands of roubles)	424.1	2,159.6	11,041.5	30.1[1)]	50.0	79.0
Number of people with disposable income below the minimum consumer budget, (thousands of people)	8,195.8	7,503.6	7,947.9	7,683.8	7,019.5	7,056.5
percentage of the total population	80.4	74.5	79.2	76.8	70.4	71.1
Number of people with disposable income below the subsistence budget (thousands of people)	3,914.4	3,323.8	4,686.4	4,192.1	2,881.6	3,027.1
Number of people with disposable income below the subsistence budget (thousands of people)	38.4	33.0	46.7	41.9	28.9	30.5
Ratio to subsistence budget of (in percent terms):						
average per capita cash incomes	147.5	188.5	140.8	166.2	202.4	203.6
average monthly salaries [2)]	178.0	214.6	166.6	184.4	229.6	223.7
average monthly pensions [3)]	91.9	95.6	76.9	97.5	126.9	119.8

[1)] 1) Adjusted for devaluation (1000 times decrease)
[2)] Calculations included subsistence budget of able–bodied population
[3)] Calculations included subsistence budget of pensioners

Source:Statistical Yearbook of the Republic of Belarus, Minsk, 2003

Creating a new and efficient reward system based entirely on market mechanisms should become a policy priority

When moving towards market-based relationships and more independence for economic entities, social partnerships become a more effective tool of salary control. Within a tri-partite system, representatives of employees (trade union bodies and workers' councils), employers (directors, associations of private sector employers) and state bodies (government, state control agencies of different levels) have equal rights in social partnership. A multi-level system for managing employer-employee relationships is important to protect workers' interests and will have an important impact on labour market development. Nonetheless, even an all-embracing legal framework is only a precondition of protecting employees' interests. No less important is sustainable economic growth, for even the most ideal employment contract does not make much sense if unemployment is high and workers are ready to compromise their interests to keep their jobs.

Low salaries are the main cause of poverty in Belarus. Originally, households with disposable income below 60 percent of the minimum consumer budget were considered vulnerable and qualified for financial support. Before 1999, the 60 percent rule, however, had not been made law and had recommendation status only. To rectify these flaws, in 1999 the Law on Subsistence Level in the Republic of Belarus was approved and enacted, providing an essentially different legal foundation for determining subsistence level and classifying people as needy. Pursuant to that law, effective January 1, 1999, the subsistence level budget became a benchmark against which people and families could be compared and deemed eligible for government assistance.

To address poverty concerns, the following government programmes and projects are currently being implemented in Belarus: annual public employment programmes, small business support, the Labour Reward Improvement Concept, the presidential programme "Children of Belarus", the Comprehensive System of Social Protection Measures of Belarus for 2000–2005, Primary Areas of National Family Policy, the state programme "Housing", a senior citizens programme, etc.

Despite these measures, the poverty situation in Belarus remains complicated (Table 3.1.1).

As seen above, the number of people with disposable incomes below the subsistence level was 30.5 percent of the total population in 2002 versus 38.4 percent in 1995. Poverty is the lowest in two-member households and the highest in large families (defined as five or more members). The core of the poor consists of pensioners, single mothers, the disabled, the unemployed, part-time employees, employees of financially insolvent companies, internally displaced persons and refugees. However, 80 percent of the poor live in families with one earner whose salary is insufficient to provide for three to five people. Thus, to minimise poverty in Belarus it is necessary to create an environment conducive to sustainable economic growth, which will help break the vicious circle of loss making enterprises, low salaries, and low productivity leading to even deeper loss-making.

THE SOCIAL PROTECTION SYSTEM

Poverty alleviation should take priority over other objectives within the framework of social protection. The ultimate goal is to ensure conditions under which no individual or family finds themselves living below a certain minimum income or consumption level. The most urgent task in this regard is promoting rational employment and creating adequate working conditions. First and foremost, it is necessary to create new jobs in progressive industries and to improve the employment pattern through redistributing the labour force to the services sector and establishing real incentives for small-and medium-sized business development.

An anti-poverty system cannot, however, focus only on boosting employment, it is necessary to improve the entire social protection system by developing key instruments (benefits, targeted subsidies) along with extra activities, such as in-kind aid, community work, retraining.

As need for social support is growing and resources for meeting this need are shrinking, it is a priority to improve the efficiency of social programmes through frugal and targeted use of funds allocated for social needs. This task is achievable through well-targeted

social support, which places the focus of social programmes squarely on vulnerable groups of people (unlike general subsidies of certain products) and links social aid to the status of the beneficiaries. Additionally, it is necessary to improve the structure and procedure of assigning budget expenditures for social purposes based on the government system of minimum standards. Support of informal structures of social solidarity, mutual aid and the protection of various groups of people (public associations, religious organisations and others specifically set up for this purpose) will also contribute to the effectiveness of the social protection system.

PENSION REFORM AND SOCIAL SERVICES

The key objective of pension reform is to improve pension support by optimising its terms and standards. In line with the reform concept, pension support has three pillars. The first pillar, state support for pensions or social pensions, aims at reducing poverty. The second pillar is mandatory retirement insurance. The third pillar is voluntary non-state pension insurance (occupational pensions). The system, however, retains the key role of state mandatory retirement insurance (first pillar) in setting up the pension system.

In order to tackle these challenges, several actions should be taken, including:

- better identifying those needing state guarantees of pension support and, accordingly, those eligible for pensions;
- tying the size of pensions to the contribution of every individual insured;
- determining reasonable norms related to retirement age; and
- improving the provision of pension benefits (bonuses, raises, preferential seniority estimation, etc).

Pensions should be calculated on the basis of insurance requirements and should be adjusted according to salary levels over the entire period of insurance.

It is strategically important to develop a market of social services. Within the framework of such a system, the state identifies priorities and releases funds to those needing a specific service, while the direct beneficiaries of these services choose a provider based on their specific requirements and quality of service provision. Competition among providers increases the overall efficiency of the system, making it more flexible and better-equipped for meeting the specific needs of different groups. An integral part of such a system is the development of a non-residential service provider network – as opposed to institutionalisation of needy persons – as a more economical, efficient and better way to meet the real needs of people.

The primary tasks of social support for family, women and children are to: re-orient social policy towards family; ensure adequate conditions for the fulfilment of the economic, reproductive and cultural functions of families; improve the family's quality of life; secure the rights of children and youth to full physical, intellectual and moral development; and create safe conditions for maternity. Currently, social support of families consists of allowances that are too meagre and insufficient to adequately sustain those in dire need. The size of the cash allowance is subject to a family's income, but when it comes to other types of aid, relevant criteria are missing. To this effect, adequate data on the status of households is crucial. For this reason, it is advisable to conduct continuous family monitoring, identify the most vulnerable, analyse the composition of low-income families, and analyse the extent and duration of poverty to determine the type of assistance needed. In the long term, however, elimination of poverty is possible only through real income growth in the population.

State policy on the disabled should be one of non-discrimination and should seek to provide equal opportunities for this group alongside others in terms of civil, economic, political and other rights and liberties contained in the Constitution of the Republic

An anti-poverty system cannot focus only on boosting employment – it is mostly achievable through well-targeted social support, which places the focus of social programmes squarely on vulnerable groups of people

Box 3.1.1

The pivotal problem of reform

The extremely low salaries earned by the majority of the population is the major factor hindering Western-style social reform. Economic transformation should have been prefaced with income reform. In recent years, the state has liberalised all production factors. Labour is the only remaining "non-liberalised" factor. Indeed, we are lagging behind the developed countries of the West in terms of labour productivity. However, what is happening to our salaries cannot be justified whatsoever by references to low labour productivity. The facts prove otherwise. The average worker in Russia makes approximately three times as much end product per one dollar of salary than an American worker. The world community represented by respective UN organisations has long recognised that a salary less than three dollars per hour pushes an employee over the threshold where the destruction of labour potential occurs. Our average salary is considerably below the threshold. At the same time, a Russian worker — a beggar by Western standards — has to exchange his or her labour for goods and services whose prices are close to or already on a par with world prices.

Eliminating imbalances between labour remuneration and productivity by bringing the average salary share of productivity at least to the Eastern European level (i.e. between 20-22 and 32-35 percent) is one of the cardinal challenges of today's economic policy.

Source: D.S. Lvov,. Economic Science and Development of Russia. – Bulletin of the Russian Academy of Sciences, vol. 69, №8. Moscow., 1999.

Table 3.2.1

Number of employees in the economy

Indicators	1995	2000	2001	2002	Growth rate, %		
					2000 to 1995	2002 to 2000	2002 to 1995
Employees including:	4,409.6	4,441.0	4,417.4	4,380.8	100.7	97.7	99.3
in commodity production, thousands of people	2,428.7	2,239.2	2,190.5	2,085.7	92.2	94.9	85.9
in services thousands of people	1,980.9	2,201.8	2,226.9	2,295.1	111.2	100.7	115.9
percentage	44.9	49.6	50.4	52.4			

Source: Labour and Employment in Belarus. Ministry of Statistics and Analysis of Belarus. – Minsk, 2002.

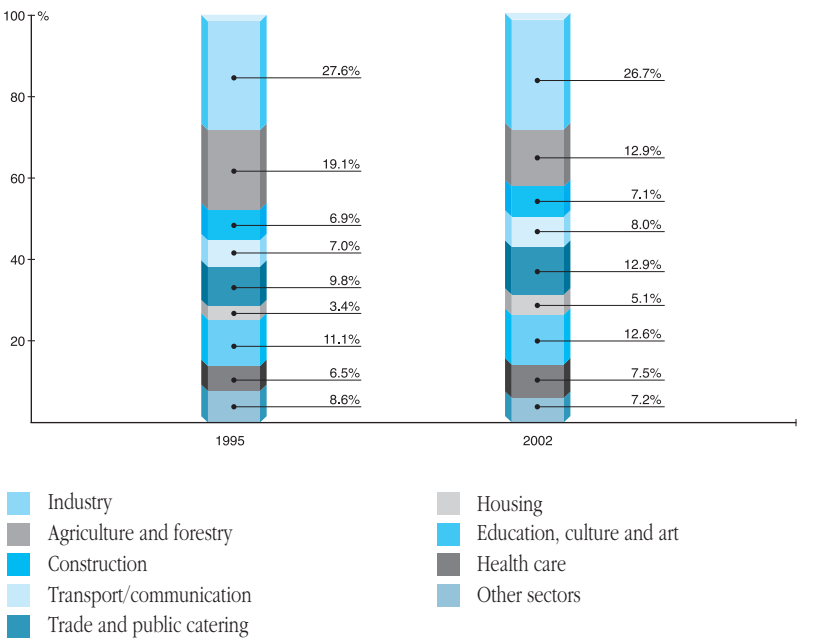
of Belarus, Belarusian law and international legal acts. Prioritising social support of the disabled presupposes the implementation of the Pension Support System Reform Concept adopted by the Belarusian Government. To this end, it is necessary to create an environment that would help the disabled to pursue a fulfilling life in all areas of human activities and in both social and employment settings. An accessible environment, both at the workplace and in public places, is a prerequisite of paramount importance for the self-realisation and integration of people with disabilities. Integrated education of children with various disabilities in regular state schools (and not their segregation to specialised institutions) is a sine qua non for their future self-realisation. It is necessary to lay the foundations of an industry that would produce new kinds of rehabilitation equipment for the disabled and to renovate and re-equip prosthetics companies making this equipment. There is also a need to formulate state support programmes on a regular basis targeting public associations of the handicapped and specialised companies employing the handicapped. All these interventions, however, should have a general, long-term objective in sight – full integration (not segregation) of the disabled into society as equals.

Establishment of a stable and efficient market-oriented social insurance system should complement a social support system

Establishment of a stable and efficient market-oriented social insurance system should complement a social support system targeting the most vulnerable strata of the population. Nevertheless, let it not be forgotten that long-term development of the national social support system can only be achieved in an environment of growing economic capacity of the country, higher rates of return of the real sector and adequate flow of earnings to respective social funds. Accelerated economic growth is the major precondition for an efficient social protection system.

Figure 3.2.1

Public employment structure by sector, in percentage terms



Source: Labour and Employment in Belarus. Ministry of Statistics and Analysis of Belarus. – Minsk, 2002.

3.2. LABOUR MARKET

From a human development perspective, employment is not only a primary source of income and a guarantor of financial security, but also a prerequisite for human self-fulfilment and social security. A diminishing demand for labour and increasing productivity are typical of the present stage of the economies in transition and industrialised countries around the world. To a great extent, current industry layoffs in Belarus are the result of organisational and structural factors, whereas in the early years of reform, employment reduction was chiefly attributable to the overall economic crisis.

EMPLOYMENT TRENDS

The first signs of positive changes appeared in 1996. A steady increase in production led to higher demand for labour and an increase in employment in practically all industries (with the exception of agriculture and science). Between 1996 and 2000, the number of those employed in industry rose from 4,409,600 to 4,441,000 people, or by 0.7 percent (Table 3.2.1).

During 2001 and 2002, a reverse trend emerged and the number of employed fell to 4,380,800 people. From an economic perspective, however, it was a positive trend because cutting of the excess labour force was accompanied by growth in productivity.

Reduction of the share of manufacturing employees has been an important factor in the transformation of the economy – down to 47.6 percent from 55.1 percent in 1995. Industry continues to be the largest employer in the economy, currently accounting for 26.7 percent (Figure 3.2.1) of employment. Nonetheless, industrial employment development trends are volatile. Following an increase in employment in the late 1990s, the number of people employed in the manufacturing sector subsequently went down, reaching its lowest point in 2002.

Reduction of manufacturing employment is a painful trend in the short term, but from a long-term perspective it is a positive and inevitable consequence of the restructuring of the industrial sector and improvement of its competitiveness.

One of the reasons behind declining employment is the low profitability or even loss-generating character of enterprises and scarce financial resources. Under such circumstances, possibilities for investment and new jobs are extremely limited and enterprises must often lay off part of their workforce. In that sense, the time has come to rethink the policy of full employment, which, in the long run, is only attainable through economic growth and employee skills development.

Currently the employment rate in Belarus' economy remains high. Full employment, however, is in many ways associated with the growth of hidden unemployment and maintenance of redundant personnel. In the long run, this method of preventing high levels of officially recorded unemployment is, in effect, detrimental to the labour force's skills and qualifications. Current practices of putting off massive layoffs while shifting employees to part-time employment and/or granting unpaid leave are not healthy for the economy. Human resource policies that do not take into account the actual needs of industries inevitably entail unwise use of labour resources, a downgrading of occupational skills, and low salaries. Eventually, all this produces loss of working time and low–quality workmanship while also slowing down positive human resource reform and reducing efficiency.

Declining employment in agriculture is the most critical challenge (down to 12.1 percent in 2002 from 19.1 percent in 1995) stemming from the depletion of demographic resources in rural areas and the movement of the youth to cities. Structural changes do not make up for the loss of human resources in agriculture that are also accompanied by low labour productivity, acute staff deficit, and reduction of workers on private farms. A sustainable solution to the issue of agricultural employment lies in land reform and providing broad development opportunities for young people in rural areas.

One of the sound trends related to employment is a growing number of employees in the service sector. A sustained demand for labour exists in management and finance, trade and public catering, healthcare, housing and community services. Employment growth in the education sector has also been encouraging, but overall employee growth rates remain relatively low (1–2 percent versus 6–7 percent in developed countries).

During years of reform, the number of employees in science and research has fallen by an alarming amount reaching 0.9 percent (versus two percent in 1990). The steady trend of employees leaving the field was also typical in 2002, during which the number of scientific staff decreased by 2.1 percent. However, even if the existing level of research and development staff within industries is "frozen", it will not automatically help to re-orient the economy towards high-tech production. The only realistic way to achieve growth in this sector is through development of new technology industries that would subsequently create a steady demand for scientists and researchers.

Notwithstanding expansion of employment in the service sector, the country's share of service employees is still only 52.4 percent and lags behind other countries appreciably. The expanding share of the private sector in services could potentially speed up this process. In general, one can talk about human resources competitiveness if the service-to-industry employee ratio is at least 60 to 40. It currently stands at 52 to 48 in Belarus. In order to attain the international standard, an estimated 330,000 people will have to move from the industrial sector to services, of which more than 80 percent will require retraining. To this effect, retraining is exactly the area in which the government should invest.

One of the key indicators of market reform is the employee ratio by ownership. In this regard, the share of state sector employees declined from 59.8 percent in 1995 to 55.1 percent in 2002. The privatisation process slowed down at the end of the 1990s with 6.2 percent of state assets privatised in 1995 and just 4.5 percent in 2002 leaving state ownership share as one of the highest compared to other countries in the region. The monopoly of state ownership is even deeper in the social and cultural fields, reaching 87–95 percent of assets.

Private sector employment is steadily growing and accounted for almost 1.9 million people, or 44 percent of the working population in 2002. About one-third of those employed by the private sector work in businesses with mixed ownership – 12.4 percent without and 1.8 percent with foreign capital (Figure 3.2.2).

There has been a recent wave of growth in numbers of private entrepreneurs but, these are still mostly engaged in commerce and mediation. In order for small- and medium-sized enterprises to reach a turning point in development, the barriers they face should be removed. In particular, the tax burden should be decreased, the legislation framework and efficiency of business support systems should be improved, and access to credit increased, including small business loan insurance. In an effort to promote small- and medium-sized business, it is important to create business parks, so that during the start-up phase, entrepreneurs can use, on preferential terms, such resources as working areas, equipment, etc.

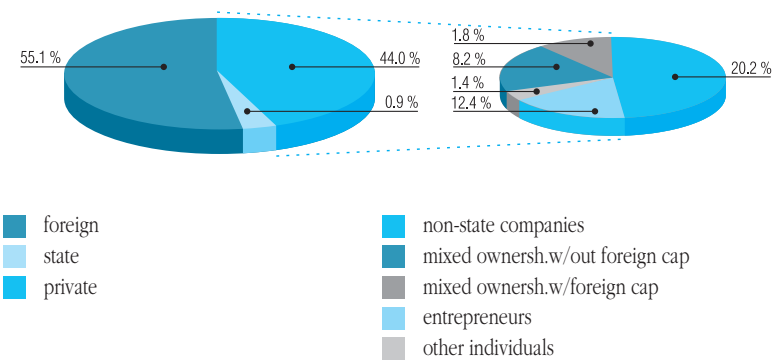
Reduction of manufacturing employment is a painful trend in the short term, but from a long-term perspective it is a positive and inevitable consequence of the restructuring of the industrial sector and improvement of its competitiveness

UNEMPLOYMENT TRENDS

Another major feature of the labour market has been

Figure 3.2.2

Public Employment Structure by Ownership in 2002, as a percentage



Source: Labour and Employment in Belarus. Ministry of Statistics and Analysis of Belarus. – Minsk, 2002.

an increase in the labour supply concurrent with falling demand for labour. Increased layoffs have contributed to the higher level of recorded unemployment – up to three percent of the economically active population. As of late 2002, the employment authorities registered 130,500 unemployed. However, household survey data suggests that the rate of unemployment is closer to 7.4 percent, nearly 2.5 times higher than the officially registered rate, but considerably lower than unemployment rates of other economies in transition. (Figure 3.2.3).

The real dynamics of the labour market are poorly reflected in unemployment data

The real dynamics of the labour market are still poorly reflected in unemployment data. Since unemployment benefits are insufficient to cover even basic needs (the average size is only eight percent of the average salary – Table 3 in the Statistical Annex to the Report), many people do not actually register for benefits at all. Furthermore, labour offices often play the role of registries and rarely provide alternative employment opportunities – a further disincentive to register. As a result, officially recorded unemployment levels remain low – unlike unemployment levels reflected in HBS or unofficial (hidden) unemployment estimates.

Another essential element of the Belarusian labour market has been the forced part-time unemployment. Hidden manufacturing unemployment was accrued predominantly in the first half of the 1990s, climbing to 26.4 percent by the end of 1995 and then dropping to 13.4 percent of average employees on the payroll. Total losses of working hours in 2002 were 22.5 million person-hours, the equivalent of 89,000 people failing to report to work. Summing up unemployment figures reflected in HBS with the estimates of hidden unemployment gives some idea – albeit rough – of the real magnitude of the problem.

At the same time, wide disparities in unemployment levels between men and women continue. Since the new legalisation, unemployment in Belarus has been predominantly among women, although the recent trend indicates a slight decrease of women's share among unemployed, falling from 64.3 percent in 1995 to 63.4 percent of the total number of registered unemployed in 2002. Every fourth unemployed woman has a higher or secondary vocational education. Low living standards compel women to look for a job, but their employment opportunities are limited because the demand for male labour is higher. Consequently, women have a longer average period of unemployment – 7.1 months versus 5.9 among men. The proportion of women in the total number of unemployed who were registered longer than a year is nearly 80 percent.

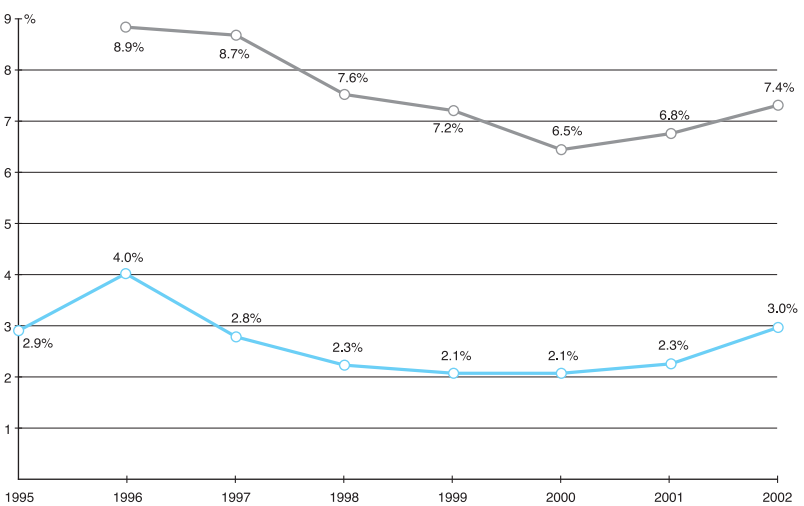
Youth unemployment, currently at 47.3 percent (in 1995 – 50 percent), is also of significant concern. It is high partly because a considerable number of young people reach working age without any vocational training or applicable skills. Every fourth unemployed person under 30 is a graduate of unspecialized schools. Only every fifteenth university graduate has a guarantee of employment immediately upon graduation. Youth unemployment not only leads to human resource losses and low labour force turnover (regeneration), but also contributes to falling morale and makes youth more susceptible (vulnerable) to criminal activity.

Employment and unemployment issues are additionally aggravated by a structural imbalance in the labour force. Existing vacancies most often do not correspond to the qualification profile of those looking for job. Still, labour market tensions have significantly eased in the last years – if in 1995 12 unemployed held claim on one vacancy, in 2002 only five did. Most of the jobs offered, however, are low-paid and fail to meet the expectations of educated unemployed. More than 79 percent of vacancies are for workers, while every third in the ranks of the unemployed is a specialist or a person with a high level of education. The supply heavily outstrips the demand for bookkeepers, lawyers or technology experts, with 26, 50 and 200 unemployed competing for one opportunity respectively in each of the professional groups. Demand for medical staff as well as for teachers is also declining, unlike that for foremen, design engineers, and software developers. The poor mobility and occupational flexibility of the workforce exacerbates labour tensions, with unemployment rising while the most needed specialists are in deficit.

Many factors impede the attempts to reduce redundant employment (or hidden unemployment). One is the existence of chief executive officers and top managers who are willing to retain the staff in order to prevent social tensions. There are fundamental economic reasons as well, such as the desire to preserve the status of an enterprise or retain core specialists so

Figure 3.2.3

Unemployment rate dynamics in Belarus



Source: Labour and Employment in Belarus. Ministry of Statistics and Analysis of Belarus. – Minsk, 2002.

that the company is ready for production expansion when the economic situation improves. Subsidies and loans provided by the government to loss-making and non-competitive enterprises on preferential terms make hidden unemployment a bearable burden and thus contribute to disguised manufacturing unemployment. Low salaries (and hence a low share of salaries in total production costs) make savings on labour costs meaningless and diminish the attractiveness of labour cuts. All these are the flip side of the full employment scheme within which most or all of the people are on the payroll, but the incomes received are closer to social assistance allowances.

POSSIBLE APPROACHES

The existing employment situation points to the necessity of implementing changes in the full employment policy towards wiser use of available human resources and phased layoffs at enterprises. The primary objective of the new policy in this respect should not be to avoid layoffs at all costs, but to make the gap between the old and the new jobs as short as possible.

Hence the employment policy priority should not be an attempt to avoid the unavoidable, but to base social support systems on time and implement sets of measures to bring human resources back to employment as quickly as possible. Appropriate retraining schemes are especially valuable as sources of new skills and crafts for the jobless, meeting the current needs of the labour market and future needs of the economy as it undergoes restructuring. The improvement of the job structure and employment in the service sector should be a priority. Small- and medium-sized business, as well as private enterprise, is instrumental to job creation, but their ability to absorb structural unemployment should not be overestimated.

When grappling with hidden unemployment, transformation of some of the forced part-time employment into full unemployment is inevitable. The status "unemployed" is an inevitable stopover during the transition of the old employment system guaranteed by the state to a new one based on market-driven mechanisms. The challenge is to make this stopover as brief as possible and not a continual state for people who have been redundant. In this respect, the informal economy has a certain role to play.

In the short term, informal employment is one of the means available to prevent unemployment from growing permanent. It should not be forgotten that informal employment is the burden of taxpayers and social protection funds and can therefore be acceptable only as the "lesser of two evils" next to long-term unemployment. In the long run, an employment strategy should seek to create a system of measures that would ensure a real choice in favour of employment in the recorded, formal sector of the economy.

No doubt, the key goals of the public employment policy are the gradual elimination of hidden unemployment and intensification of progressive structural shifts in the distribution of human resources, subject to the needs of the economy under reform. To achieve these goals, it is first necessary to improve human resource flexibility and competitiveness, based on professional retraining and skills-building in keeping with the needs of the changing economy. Tax policy is an important tool as an incentive for expanding employment in small- and medium-sized enterprises.

In the long run, the method of preventing high levels of officially recorded unemployment is, in effect, detrimental to the labour force's skills and qualifications

Box 3.2.1

What is "unemployment"?

Labour markets are much more difficult to analyse than it may appear at first glance. This is due to the fact that the status of a given individual can be classified in different ways. There can be, for example, officially recorded unemployment or informal unemployment (in the so-called "shadow economy"). In fact, part of the employed do not really fit into this category – they are kept on the company payroll, but perform no real work and often find themselves on "administrative" unpaid leave. This category of people usually belongs to what is known as "hidden unemployment".

The issue of unemployment as such is ambiguous. International standards define an unemployed person as one of working age, part of the so-called "labour force" (i.e. not a student or a person on maternity leave), who is looking for a job, but does not find one. Normally, this is registered unemployment. Part of the non-working population within the "labour force", however, does not look for a job. These are so-called "discouraged workers". They either give up any hope of finding employment, are involved in informal employment, or simply prefer (and have the possibility) to be dependents. Since there are no registers covering all these categories of people, the real number of unemployed (exclusive of informally employed) and discouraged workers are measured based on selective studies. From a purely methodological perspective, the scale of unemployment in Belarus, regardless of measurement technique, substantially exceeds the officially recorded level.

Source: Report on a research paper "To Study the Dynamics of Hidden Unemployment in Belarus and Develop Settlement Proposals". Research Economic Institute of the Ministry of Economy of Belarus. – Minsk, 2003.

Box 3.2.2

Retraining as a way of addressing unemployment

Professional retraining and requalification is a priority for employment policy. In 2002 alone, about 29,000 unemployed took training courses in various fields of activities with the costs covered by the state employment authorities. The positive impact of this approach is reflected in a fairly high share (66 percent) of unemployed having found a new job after the retraining.

Training and retraining are primarily delivered to young people, whose share in the total number of those subjected to occupational training is over 76 percent, every third one being a high school graduate. Training and retraining cover 172 skills and specialisations, depending on the current labour market situation. Young people primarily undergo training to become drivers, bricklayers, welders, shop assistants, etc. University graduates, in addition to traditional specialisations, have a chance to get training in newer fields, more prevalent in market economies, such as computer graphic design, business, and management. Experience shows that most youth wish to receive training and go into small business, and efforts are being applied in this direction. In a number of the country's regions, the unemployed have a chance to receive basic training in business, business planning, simplified accounting and taxation. These teaching activities make wide use of self-employment resources and materials based on the methodology of the BYE/98/002/UNDP/ILO/Ministry of Labour Project entitled "Poverty Reduction through Support for Self–Employment in Income Generating Sectors". Apart from a certificate, another valuable by-product of the training is a business plan prepared by the unemployed for a specific line of business of their choice and subsequently defended at the regional working group meeting in labour offices. Additionally, the unemployed receive financial support to start a business in the form of: a grant covering the costs of opening a bank account; notary services; or a business start-up loan.

Here's only one example. Research of the local market was conducted in Novogrudok to find free "niches" for new business. The research led to the identification of a need to have more small bakeries and provide training to specialists in this area. After the interview and testing process, three unemployed were offered a "small bakery operator" training course. After the training and business plan development stage, one of them received financial aid 45 times the subsistence level budget (more than USD 2,000).

At the same time, the retraining needs of recent graduates of universities and secondary vocational schools bear witness to the inefficiencies of the current educational system. The latter does not correspond to the demand of the labour market and produces highly educated unemployed who then must undergo costly, government-sponsored youth retraining. Above all, this raises the issue of the efficiency of resources devoted to education.

Source: Y. Veselov. Establishment and Implementation of Regional Self–Employment Programes for the Unemployed in Belarus. – Minsk, 2001

Economic incentives for public self-employment are just as valuable. In the short term, temporary employment schemes based on community works, particularly for areas facing structural problems in the labour market, might alleviate the concerns of those soon to be laid off. Public support should also be aimed at better meeting the occupational needs of specific vulnerable sets of people (e.g., the disabled).

3.3. PHYSICAL AND SPIRITUAL RECOVERY OF BELARUS. HEALTHCARE DEVELOPMENT

The overall morbidity rate in Belarus increased by 27.2 percent between 1990 and 2001 (Table 3.3.1) and is rising steadily.

There has been an alarming increase of mental disorders and higher middle-aged mortality from cardiovascular disease simultaneous with the spread of such pernicious risk factors as smoking, drug use and alcohol abuse. Public health relates to all aspects and areas of human life and activities, such as education, culture, and the economy, etc. This makes public health a complex problem affecting the interests of the state and its individual citizens. Judging by the data provided by the World Health Organisation (WHO), 18–20 percent of human health depends on the environmental status, 8–10 percent on the level of healthcare development in the country, 20–22 percent on hereditary predisposition, and 50–54 percent on the chosen lifestyle. Thus, it is easy to calculate that over 70 percent of health factors are quite controllable.

Although Belarus has amplified its efforts to formulate a national health policy, the overall morbidity rate in Belarus has been rising steadily

In the past few years, Belarus has amplified its efforts to formulate a national health policy. On October 30, 1998, the Council of Ministers of Belarus adopted Resolution #1668 "On the introduction of special courses in Belarus' educational establishments for the promotion of healthy lifestyles among youth and students". The ongoing programs and initiatives include the state programme "National Health" for 1999–2005, the State Programme for the Promotion of Healthy Lifestyles In Belarus in 2002–2006, the State Programme for the Development of Physical Education, Sports and Tourism, the State Programme of National Action Against Alcohol Abuse and Alcoholism, Integrated Drug Enforcement Measures, Primary Areas of State Family Policy, the National Programme "Women of Belarus", and the Presidential Programme "Belarusian Children". Among the adopted legal documents regulating various aspects of the nation's physical and spiritual health are the laws of the Republic of Belarus entitled "On Public Health" (recently revised), "On Sanitary and Epidemiological Welfare" (new version adopted), "On Psychiatric Assistance and Protection of the Rights of Assistance Receivers", "On Physical Education and Sports", "On Tourism", "On Public Radiation Safety", "On Social Support for the Disabled in Belarus", and some legal acts on healthcare system capacity building, health awareness, wise management of natural resources and environmental protection, improved supply of drinking water and others. In fact, public health is a priority issue in the Programme of Social and Economic Development of Belarus for 2001–2005.

Still, a radical improvement of public health is not feasible within just two or three years, due to stagnating medical, demographic and spiritual environments, ageing population and an increase in chronic disease. Under the circumstances, a rather long period of socio-economic and cultural recovery with a key focus on physical and spiritual health is central to the sustainability and irreversibility of positive health trends.

HEALTHY LIFESTYLES

Promotion of healthy lifestyles is the primary mechanism for achieving physical and spiritual recovery. In order to achieve this, it is vital to foster the universal need to observe the principles of healthy lifestyles and consciously abstain from self-destructive behavioural patterns. A precondition for ensuring healthy lifestyles is the establishment of legal and economic mechanisms that form an enabling environment for the improvement of lifestyles. Another important responsibility and role of the state is in ensuring the development of medical, medico-genetic, sanitary and hygienic prevention and creating conditions for the development of sanatoriums, health centres, and other recreational and prophylactic schemes, as well as the open encouragement of physical education, sports and tourism.

Intensification of healthy lifestyles promotion through mass media is critical. It would be advisable to mount an "attack on the mentality of people" by enlisting the support of leading sociologists, doctors, famous athletes, actors, and health enthusiasts. To make it happen, it is necessary to establish a national healthy lifestyle information fund and design awareness-raising initiatives targeting different social strata with the active involvement of mass media.

Physical education, sports and tourism are the main factors contributing to the development of healthy lifestyles. They are essential for comprehensive physical and spiritual development, improvement of health, prevention of diseases, prolongation of creativity, and wise public recreation management. However, over the past decade, despite the government's initiatives on physical development and training have been in continuous decline. The total share of expenditures on sports and tourism in Belarus constitutes just 0.2–0.3 percent of GDP, insufficient for technical and logistical support, the establishment and strengthening of sports facilities, or implementation of sports initiatives for the general public.

Among all negative factors (organisational, methodological, understaffing, etc.) that hinder the development of sports and tourism, the inadequate logistical support of the sector is of special concern. The average ratio of actual capacity of sports facilities to their intended capacity per 10,000 people is 70 percent for stadiums and little more than 45 percent for other

facilities. Only 60.5 percent of schools have gyms. As for higher educational establishments, 78 percent of them are equipped with indoor athletic fields, and only 58 percent have open-air courts. Twenty-two vocational schools have no gyms and a third of them have no ski lodges or shooting ranges.

The physical training and sports development at industrial enterprises, organisations and companies is in a state of crisis. Many enterprises and organisations have shut down their athletic clubs and laid off 70 percent of their physical education specialists.

Since 1992, many local governments have suspended financing of public sports initiatives. As a result, all sports coaches originally assigned to local housing and community services have become redundant, local hobby clubs have broken apart, and thousands of children and teenagers have no opportunity to attend gyms or sports clubs.

TOURISM

Tourism occupies a conspicuous place in the formation of the population's physical health. The tourism industry is currently one of the most rapidly developing and profitable branches of the world economy. According to the World Tourism Organisation, the proceeds from international tourism have consistently ranked highest in the worldwide export of goods and services. International tourism accounts for about six percent of worldwide export, and 25–30 percent of the worldwide service industry. In Belarus, however, despite considerable potential, tourism is still underdeveloped.

Belarus is home to the historical capital of the Grand Duchy of Lithuania, Novogrudok, as well as palaces and castles of renowned leaders of the Rzeczpospolita and the Russian Empire. It is home to many ancient monasteries and temples, and many cities and towns of great architectural, historical and cultural value. Some of them are not only the pride of the Belarusian people, but an inherent part of the world architectural treasury as well, including: St. Sofia's Cathedral and the Church of the Transfiguration of Christ with unique murals from the 11th century in Polotsk; Kolozha Church in Grodno; the church in the village of Synkovichi; castles in Krevo, Nesvizh, Mir; and the St. Nicholas Monastery in Mogilev. Belarus lies on the path of the famous historical Viking route to Greece, which gave birth to the Slavonic nation.

Along with historical and architectural sites, Belarus boasts a number of valuable protected ecosystems in and around national parks, including the Belovezhskaya Pushcha, the Braslav Lakes, the Berezina Biosphere Reserve, the Pripyat Landscape-Hydrological Reserve, and the major lake districts of Dryvyaty, Naroch, Perebrodye, Ushachi and Lepel. Unfortunately, the Belarusian tourist industry cannot take advantage of all these historical and cultural sites because of underdeveloped tourist infrastructure.

The development of tourism in Belarus requires much greater involvement of governmental and both local and foreign private investors. The existing legal framework regulating tourism needs revising as well. Consequently, it is necessary to develop and implement an integrated economic and social action plan to support and promote physical education and the development of tourism in the country.

PREVENTIVE MEASURES

A healthy lifestyle implies not only physical exercise, tourism and spiritual development, but also abstinence from drugs, tobacco and alcohol. Alcoholism and drug abuse remain the greatest social threats in Belarus and lead to human capital degradation. The annual sale of alcoholic beverages expressed in absolute alcohol per capita reached 9.7 litres in 2002. According to World Health Organisation criteria, the health situation becomes serious when this indicator exceeds the 8-litre threshold.

Alcoholism and drug abuse remain the greatest social threats in Belarus and lead to human capital degradation

The total number of patients registered in alcoholism rehabilitation clinics by the end of 2001 was 149,100 people constituting a 2.3 percent increase compared to 1990. There is an especially alarming growth of alcoholic psychoses, whose number has increased 3.7 times since 1990 (Figure 3.3.1).

The dramatic spread of drug addiction and increasing number of casual drug users accompany the escalating alcohol consumption. Between 1990 and 2002, the number of registered drug addicts in Belarus increased 11.7 times. The problem of drug abuse in Belarus is becoming so acute, that it is beginning to

Box 3.2.3

The informal sector in Belarus

The distinguishing feature of the labour market in Belarus is that it combines a low level of officially recognised unemployment and hidden unemployment in the state sector of the economy (the issue of redundant employment). Apart from the development of hidden forms of unemployment, "household informal employment" exists and is growing in scope in Belarus.

The informal sector as we know it today has practically become a separate segment of the unorganised labour market and covers various population groups with different economic and social status. These are citizens engaged in entrepreneurial or other types of activities who are not properly registered as legal persons or individual entrepreneurs. People employed in the economy who have secondary unregistered employment to compensate in part for small incomes earned at their primary place of employment can also be added to this list. Experts assume that the level of informal employment including its hidden, secondary elements represents more than 16 percent of the able-bodied population in Belarus. However, it is impossible to keep track of all the informally employed since selective labour force studies based on International Labour Organisation standards are not conducted in Belarus and many people prefer not to disclose their unregistered activities during polls. It is especially difficult to avoid double registration of formally employed people who turn to the informal sector for extra income.

The official figures state that the annual number of able-bodied people who are not actually employed is nearly 1.1 million and only a tenth of them have unemployed status. Others pursue informal activities or do not work anywhere and become discouraged workers or dependants. It is difficult to distinguish between the two. Some studies suggest that discouraged workers make up 4.7 percent of the economically active population.

From a human development perspective, status - be it as an employed person or a discouraged worker - is not so important. The opportunity for sustainable livelihoods is what counts most. The best-case scenario may include employment in the formal (registered) sector of the economy, with adequate social protection and security, but in a crisis the real choice is often far from such an ideal. When facing long-term unemployment and poverty traps, many people earn income in the informal sector for survival.

Source: Report on a research paper "To Study the Dynamics of Hidden Unemployment in Belarus and Develop Settlement Proposals". Research Economic Institute of the Ministry of Economy of Belarus. – Minsk, 2003

Table 3.3.1

Morbidity rate by category of disease

Diseases	1990	1995	1999	2000	2001	2001 as % of 1990
Number of new diagnosed and registered pathologies, cases	5,637,749	7,571,029	7,923,757	7,249,791	7,168,742	127.2
Including:						
infectious and parasitic diseases	307,933	476,608	428,081	400,560	374,620	121.7
neoplasms	48,595	61,034	69,254	70,081	73,309	150.9
disorders of endocrine system, indigestion, low metabolism, immuno-deficiency	71,508	79,511	71,753	71,326	68,475	95.8
hemopathies, disorders of hematopoietic organs	14,253	19,670	24,206	23,243	24,448	171.5
mental disorders	58,805	110,562	117,524	110,123	111,568	189.7
diseases of nervous system and sense organs	264,530	480,834	524,239	503,206	491,122	185.7
circulatory diseases	115,976	142,416	163,651	164,980	188,965	162.9
disorders of respiratory apparatus	3,225,090	4,112,241	4,276,306	3,721,200	3,649,095	113.1
diseases of the digestive tract	216,580	247,556	230,081	229,344	221,818	102.4
diseases of the uro-genital system	132,645	252,339	289,781	279,780	286,071	2.2 times
dermatoses, diseases of subcutaneous tissue	244,962	411,137	403,354	387,441	392,609	160.3
diseases of musculoskeletal system and connective tissues	188,343	314,833	365,886	365,014	366,312	194.5
congenital abnormalities and malformations	5,726	7,687	9,577	9,345	9,056	158.2
injuries and poisonings	637,842	714,232	789,971	754,722	764,699	119.9

Source: Morbidity and Death Rates in the Republic of Belarus. Statistical Yearbook. Minsk, 2002.

directly affect the health of the nation and, in particular, the younger generation. Alcohol and drug consumption have become very popular among young people, including women of child-bearing age.

An interview with senior schoolchildren in Minsk conducted by the Research Institute of Statistics revealed that 2.6 percent of interviewees claimed that by the 9th grade they consumed alcohol regularly 3–4 times a month (4.2 percent of boys and 1.8 percent of girls), and by the 11th grade the number of regular drinkers reached 9.9 percent (13.5 percent of boys and 7.3 percent of girls).

Smoking also has a negative effect on public health. Fifty-three percent of the male population, 6.3 percent of women and a large number of 14–15-year-old teenagers smoke in Belarus. In Minsk for instance, 25.8 percent of boys and 13 percent of graduation-year girls smoke regularly. There are virtually no attempts to teach teenagers about the dangers of addiction.

As reported by the World Health Organisation, tobacco consumption accounts for 95 percent of lung cancer, 75 percent of chronic bronchitis and pulmonary emphysema, and 25 percent of myocardial ischemia. The international practice includes a few methods of state policy-intervention in this area, from cigarette and alcohol taxes to imposing a special tax on alcohol abuse treatment. Nonetheless, Belarus should refrain from quick action. Without careful assessment and consideration, preventive measures can backfire and give rise to such phenomena as bootlegging or a new crime wave. The Belarusian government should consider the adoption of a law "On Prevention of Ill Health-Effects From Smoking in Public Places".

INFRASTRUCTURE OF ART AND CULTURE

Belarus has over 13,000 artistic and cultural institutions. These include: over 5,000 public libraries whose archives hold more than 70 million books, journals and magazines; 135 museums; 40 theatres; and 3,500 cinemas, motion-picture installations and video clubs.

Over the past few years the Belarusian population has displayed a great interest in the cultural assets of the country. Museums – the cultural and historical treasure troves of Belarus – boast an increasing attendance rate, while in the majority of CIS countries it has dropped almost by half, and in Georgia – by ten times. While in the Commonwealth of Independent States cinema attendance rates are sharply down, in Belarus they only went through a sevenfold decrease (in Ukraine – 85 times, in Russia – 32 times, and statistically speaking, in such states as Azerbaijan, Kyrgyzstan and Moldova, people hardly ever go to cinemas at all).

Recently, Belarus has re-evaluated its actual economic and budgetary capacity and has managed to more than double government spending on culture (from 0.8 percent in 1995 to two percent in 2001). The establishment of the Presidential Fund for the Development of Art, Culture and Talented Youth was a true highlight for culture promotion. Since the creation of the fund, over 2,000 gifted youngsters have received the Presidential Scholarship.

Various Belarusian departments of art and culture carry out the state programme "Development of Culture in the Republic of Belarus until 2005" – a key instrument for integrated implementation of the country's national cultural policy.

Still, year by year, the existing institutions of art and culture encounter a mounting need to reinforce and modernise their facilities. Up to 50 percent of the sector's fixed assets have deteriorated. While 36 percent of the existing public clubs occupy adequate premises, 17 percent require thorough repair, and nearly one percent are in very urgent need of repair. The situation is very similar for Belarusian libraries.

Spiritual and cultural recovery of the nation is achievable only through a quality upgrade of the network of cultural institutions and the establishment of an efficient economic mechanism for culture promotion. In this regard, it is critical to provide universal access to the works of national and world culture, and to preserve historical and cultural heritage and national traditions. To improve relevant legislation, the adoption of the Laws of the Republic of Belarus "On the Protection of the National Art and Culture", "On the Motion Picture Industry", and "On Theatres" is crucial.

HEALTHCARE SYSTEM

As the main asset of any country and the greatest benefit of its people, public health is closely associated with the development of the healthcare system. Unlike most of the CIS states, Belarus never allowed deterioration or managerial disintegration of the healthcare system. The country maintained control over medical services by safeguarding basic humanitarian principles and the constitutional rights of citizens to free medical assistance.

Compared to economically developed countries, the population of Belarus is traditionally well-provided with medical personnel and hospital beds. Nonetheless, a certain degree of disparity between statistical data in Belarus and other countries must be taken into account. For example, as a rule, other countries do not apply the term 'medical personnel' to healthcare management specialists, physiotherapists, etc.

At the same time, many important problems in the Belarusian healthcare system that have remained unresolved for dozens of years still persist. For example, there is an extremely low level of financing and unjustifiably disproportionate resource distribution (by both type of medical services and territory, and between urban and rural areas) in the sector. The system has been characterised by a cost-is-no-object approach where the allotment of funds depends on the amount of overall resources and not on the number and quality of actual services. This combined with an exceptionally high depreciation of fixed assets results in a situation where the existing development model can hardly ensure the quality of medical services needed to meet modern needs. Thus, the successful physical and spiritual recovery of the nation requires a radical reform of the healthcare system and introduction of medical insurance schemes based on the best practices of other transition economies.

Box 3.3.1

A country's future is not only about the material wealth of its citizens and a healthy environment, it also requires a morally sound society.

The system of art and cultural institutions is one of the indispensable state infrastructures as it provides spiritual freedom and cultivates national awareness. It makes works of art and culture available to all people, including the socially underprivileged.

As a national resource, culture is an amalgamation of material assets and spiritual values manifested in existing social phenomena, such as the native language, historical and cultural heritage of the nation, folklore, traditional folk crafts and trades, professional and amateur arts, cultural and artistic education, cultural facilities and personnel, international and interstate cultural relations, material and financial support, etc.

The governmental support of cultural development seeks to create favourable conditions for the proper political, social, economic and spiritual education of the country's citizens. It involves conservation of historical and cultural heritage, enhancement of the uniqueness of national culture, preservation and development of the national language, development of amateur and professional arts, the study and conservation of authentic forms of folklore, revival and development of traditional folk crafts and trades, promotion of sound moral values, Christian ideals, and unique Belarusian traditions in the context of the interests of other nationalities living in the country.

Source: V.N. Shimov. Turn-of-the-Century Economic Development of Belarus: Problems, Results, Opportunities: Monograph – Minsk: Belarusian State University, 2003.

3.4. MODERNISATION OF EDUCATION AND DEVELOPMENT OF NATIONAL CULTURE

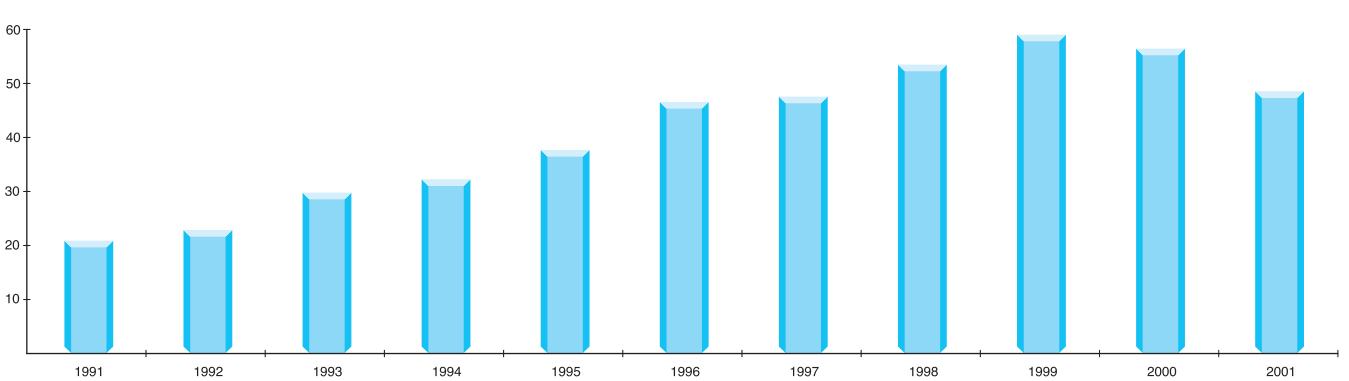
Intensification of healthy lifestyles promotion through mass media is critical

The predominantly state-run system of education in Belarus, frequently referred to as the 'information society' or 'the society of knowledge', supports Belarus' advance towards the post-industrial era. Among the strategic priorities of national education development are accessibility and an individual approach, comprehensiveness and practical applicability, continuity and uniformity of education, and integration into international educational practices.

Further development of pre-school education

Figure 3.3.1

Incidence rate of alcoholic psychoses (per 100,000 people)



Source: Morbidity and Death Rates in the Republic of Belarus. Statistical Yearbook. Minsk, 2002.

Table 3.4.1

New types of high schools (at the beginning of each academic year)

Indicators	1995	1996	1997	1998	1999	2000	2001	2002
Number of gymnasia, lyceums and pre-college establishments	89	102	105	110	121	126	131	137
Total enrolment, in thousands	73.3	80.9	84.0	86.3	89.3	92.3	95.0	99.5

Source: Ministry of Statistics and Analysis of the Republic of Belarus. 2003.

requires new conditions for the results-oriented education of children from the age of five, including new types of pre-school facilities (kindergartens and child development centres), and enhanced collaboration between pre-school establishments and the family.

A transition to a 12-year education program that includes 10 years of compulsory education is at the centre of public school reform. It involves the modernisation of curricula and development of contemporary educational technologies. New reforms also strive for integration of individual interests of pupils and the adoption of a five-day academic week with fewer homework assignments. Furthermore, the transition from the traditional classroom approach to a varied form of teaching will include the introduction of a more flexible and objective system of knowledge assessment, use of state-of-the-art information technologies and the Internet. Lastly, the enhancement of cultural, economic and environmental education of schoolchildren with intensified training in foreign languages, and English in particular, is highly needed.

Insufficient financing hinders the national education system's progress toward the level of an "information society". Currently, it is around seven percent of GDP in lieu of the 10 percent guaranteed by the Law on Education

The number of new forms of education is increasing, including: customised classes, specialised classes, pre-college classes, and high schools (gymnasia, lyceums) with optional subjects and stratified curricula (Table 3.4.1).

The number of students at higher education establishments is also growing (Table 3.4.2). At the beginning of 2002, 324 college students per 10,000 people were enrolled in higher education establishments.

It is necessary to strengthen the status of traditional and professionally-oriented universities and specialised institutes. Traditional universities train various specialists and perform the function of a versatile research centre. Professionally-oriented universities engage in teaching and research work in one specific area. Specialised institutes will readjust their curricula to accommodate the education requirements for multidimensional practical applications.

The development of higher education strives to provide a much wider choice of educational content, forms and duration. Full-time higher education remains the priority. Extramural forms of teaching are also preserved with greater emphasis on distance courses and external studies. Bachelor's and Master's degrees are now an integral component of the education process. Opportunities for the acquisition of a second higher education, as well as new contractual forms of training and college loan schemes, will be expanding.

Improvement of the current teaching process is the main concern of educators. Immediate plans envisage the reduction of compulsory classroom lessons and an increase in independent studies. Students will have an opportunity to customise their course schedule depending on the requirements of their future work. Crash courses and intensive education based on modern computers and information technologies will become increasingly widespread.

Insufficient financing hinders the national education system's progress toward the level of an "information society". Currently, it is around seven percent of GDP in lieu of the 10 percent guaranteed by the Law on Education. Financial constraints slow down the technical retooling and renovation of education establishments. Pedagogic professions (especially school employment) become less prestigious mainly due to the inadequate remuneration for teachers' services. Recently introduced governmental scholarships and grants, and supplementary payments from local budgets somewhat remedy the situation.

The development of moral and ethical values and promotion of national culture should complement the increasing level of education. The country has managed to preserve the public network of cultural facilities, chiefly at the expense of the state budget. At the same time, the sphere of application and study of the Belarusian language is continuously shrinking. Replenishment of library book stocks is very slow, especially in terms of modern scientific and technical literature. Part of the intellectual elite has left the country and most of the equipment and other technical facilities of cultural establishments are growing obsolete.

Despite the overall decrease of public interest in cultural life due to increased economic pressure on households, part of the population has become even more culturally developed. The attendance rate of various cultural events has increased, following an all-time low in the mid 1990s. Children's arts schools that teach music, art, choreography, etc., enjoy traditional popularity. The art of folk crafts has been developing

Table 3.4.2

Development of higher education (at the beginning of each academic year)

Indicators	1995	1996	1997	1998	1999	2000	2001	2002
Total enrolment in higher education establishments, in thousands	197.4	208.9	224.5	244.0	262.1	281.7	301.8	320.7
Number of college students per 10,000 people	194	206	222	243	262	282	303	324

Source: Ministry of Statistics and Analysis of the Republic of Belarus. 2003.

and the authentic folklore and decorative art are also being revived.

The answers of Minsk residents to the question about their favourite forms of cultural activities demonstrate a rather broad variety of interests (Table 3.4.3).

We may ask the question: What is the role of arts and culture in the lives of modern-day Belarusians? Various studies suggest the versatility of this role. Their psychotherapeutic function is currently predominant. Nearly every second individual admits that arts and culture help relieve stress and generate positive energy.

Recreational functions rank second in terms of importance with every third Belarusian citing this particular function as being important for him or her.

Thirty percent of respondents mentioned the educational function of arts and culture, calling it mind-elevating and knowledge-enhancing. Most remarkably, 50 percent of young interviewees admitted to this function's specific importance.

Research shows that arts and culture can have various functions in society, including as a teaching tool, a humanistic inspiration or a creative stimulus. About every fourth Belarusian resident values arts and culture as outstanding instruments for instructing and integrating younger generations into society. Another 15 percent claim that after the collapse of old-style ethics and the collision of different systems of values, the works of art and cultural artefacts gave them something to relate to and provided valuable insights into the meaning and true values of life. Finally, 11.5 percent insist that any form of art or culture is a means of creative fulfilment and development of their creative capacities.

The degree to which people feel connected with cultural values determines the multidimensional role of arts and culture in their lives. In this respect, the Belarusian society (Minsk-based studies) falls into four groups:

- Group 1 – figures in the world of art and culture. These people are firmly oriented to artistic and humanistic values and closely affiliated with the creators and promoters of cultural values (12 percent);
- Group 2 – people who fully appreciate the spiritual potential of art and culture (25 percent);
- Group 3 – people who share the stereotypes of mass culture and assume a purely pragmatic attitude towards art (55 percent); and
- Group 4 – the periphery of cultural life. These individuals are marked by indifference and sometimes accompanied by a nihilistic attitude towards art and culture, with a possible aggressive or hostile reaction to any manifestation of culturally-oriented activity (8 percent).

The ultimate task of cultural development is the gradual shrinkage of the two latter groups. In order to build a reliable foundation for the development of spiritual culture and a culturally sophisticated nation, it is necessary to ensure the following:

- revival and development of the cultural heritage of Belarus, its national traditions, folk arts, lore, trades and crafts;
- development and expansion of the Belarusian language environment;
- unobstructed development and cross-fertilisation of the cultures of all nations and nationalities inhabiting the country;
- strengthening of social morality and spiritual revival based on Christian values;
- intensive promotion of cultural values and their all-inclusive public accessibility;
- development and implementation of aesthetic education programmes for younger generations, expansion the network of children's arts schools, hobby clubs and sports clubs;
- capacity building for the intellectual elite, protection of the interests of artistic and cultural people and enhancement of their social status;
- identification, study, conservation and restoration of cultural artefacts;
- integration into world culture as an equal participant of global cultural processes; and
- creation of favourable organisational and economic conditions in the field of culture for the promotion of initiative and development of talent, and for the reasonable combination of commercial and non-commercial forms of art and culture.

Table 3.4.3

Answers to the question "What forms of cultural activities appeal to you"? (as a percentage of the total number of interviewees)

Theatres	43.2
Cinemas	33.7
Rock and pop concerts	33.0
Discotheques	29.1
Art exhibitions	27.4
Circus	26.2
Museums	25.5
Libraries	20.5
Book fairs	19.1
Decorative art expositions	11.8
Video clubs	9.1
Symphonic and chamber concerts	8.8
Folk music concerts	7.3
Brass band festivals	3.4

Source: Representative opinion poll for Minsk conducted by the Minsk Research Institute of Social, Economic and Political Problems in October 2000 among 932 persons.

Various studies suggest that for nearly every second individual in Belarus, psychotherapeutic function of arts and culture is currently predominant

3.5. REGIONAL DEVELOPMENT, MITIGATION OF THE CONSEQUENCES OF CHERNOBYL, AND PROMOTION OF A SUSTAINABLE DEVELOPMENT CONCEPT

Within the boundaries of Belarus, problem regions were first officially articulated in the document entitled "Primary Areas of Socio-Economic Development of the Republic of Belarus for the Period 1996–2000": "The state will place under special control problem regions distinguished by specific natural, socio-economic and environmental conditions. Problem regions include areas contaminated with radionuclides as a result of the Chernobyl disaster, such as: Belarusian Polesie; Belarusian Poozerie; Minsk Capital Circuit; Soligorsk industrial region; Novopolotsk industrial centre; districts bordering on Poland, the Baltic States, Ukraine and the Russian Federation; and areas in depression, above all, those with low economic potential and with core industries facing bankruptcy, as well as those with a high unemployment rate."

The need for sustainable development of problem regions was further reinforced in the National Sustainable Development Strategy of Belarus endorsed in 1997 (NSDS-97): "It is necessary to determine exactly how various areas and cities should move towards sustainable development, and identify problem regions and special areas for state regulation." Given the relevance of the regional aspects of sustainable development, the Concept of the new NSDS covering the period until 2020 calls for the formulation of two separate sections and their incorporation into the strategy: "Problem Region Development" and "Mitigation of Chernobyl Consequences".

The total Chernobyl-related economic damage that Belarus will have sustained by the year 2015 is estimated at USD 235 billion

All National Human Development Reports have provided exhaustive coverage of the mitigation strategy for the Chernobyl consequences, which greatly impair human development in Belarus. The National Human Development Reports "Belarus: Human Environment" (1996) and "Belarus: State, Management, Human" (1998) elaborated on certain development specifics of other problem regions.

The analysis of the economic, social and environmental processes of Belarus in the late 1990s and early in the new century indicates substantial regional differences in terms of human capacity building. To a large extent, regional living standards are determined by the environmental situation, which is predetermined by both human economic activities and the vulnerability of natural ecosystems. In fact, the aforementioned problem regions display a direct link between their status and ecological factors.

CHERNOBYL CONSEQUENCES IN A REGIONAL DEVELOPMENT FRAMEWORK

Unquestionably, the region which undermines the economic and social situation in the country and which is of top ecological priority is the area contaminated with radionuclides as a result of the Chernobyl NPP disaster. This problem region, the most severe at the moment, appeared in 1986. Although the Chernobyl catastrophe did not take place in Belarus or through the fault of Belarus, it was Belarus that suffered the most. The Belarusian area contaminated with radionuclides is 1.5 times larger than in Ukraine and 1.2 times larger than in Russia.

The size of the problem region, zoning regulations by radionuclide density and public dose loads were officially specified in the Belarusian Law "On the Legal Status of the Areas Affected by the Chernobyl NPP Disaster" (1991) and are subject to regular readjustment through ongoing radiation monitoring. As of January 2001, the size of the area contaminated with Caesium-137 equalled 43,510 km^2 (21 percent of the country's total area). Within this territory, Strontium-90 is responsible for the contamination of 21,100 km^2, while isotopes of trans-uranium elements account for nearly 4,000 km^2. In the beginning of 2003, radioactively contaminated areas of Belarus covered 2,802 localities with a population of 1,470,544 (14.9 percent of the country's population). Specifically, 1,207,131 people (of which 278,845 are children) live in the areas subjected to regular radiation monitoring (37–185 kBq/m^2), 247,376 (58,565 children) live in resettlement areas (185–555 kBq/m^2) and 16,037 (4,026 children) live in the areas of subsequent resettlement (555–1,480 kBq/m^2).

Contaminated areas are tightly grouped in three oblasts: Gomel Oblast (69.3 percent of the territory contaminated), Mogilev Oblast (35.6 percent) and Brest Oblast (13 percent). Their collective share is 92 percent of the problem region's territory and 97 percent of the population living in contaminated areas (cf. Table 3.5.1). Other contaminated spots are sporadically scattered in Grodno Oblast (about seven percent of the total area) and Minsk Oblast (about five percent).

The total Chernobyl-related economic damage that Belarus will have sustained by the year 2015 is estimated at USD 235 billion. Human development losses represent the largest share of the overall damage due to increases in disease and the prohibitive costs involved in social protection and security for human activities in the contaminated areas. The presence of radionuclides in virtually all elements of the ecosystem causes numerous forms of public irradiation, external and internal, and also create long-term health risks.

The contamination of 1.8 million hectares of agricultural land (21 percent of the total area, 264,000 hectares removed from agricultural use), 1.7 million hectares of forests (23 percent of the country's forested land), and 132 deposits of mineral resources has led to losses of natural resources.

Industrial capacity losses stem from operational complexities (additional costs) in contaminated areas and from the decommissioning of 54 agricultural enterprises, closure of nine processing plants and 22 mineral sites, and timber limitations in forests with a density of contamination higher than 555 kBq/m^2. In addition, a complete loss of the social infrastructure is typical of exclusion and resettlement zones.

Contaminated forests, mires and lakes, widespread in the area, store (accumulate) radionuclides and feed them continually back to the surroundings. Forest and peatland fires and the erosion of agricultural and abandoned land by wind and water have transferred contamination to adjacent clean areas and across the border.

More than 17 years after the Chernobyl disaster, the Belarusian government undertook unprecedented measures to overcome the after-effects of radiation, spending from 19.9 percent in 1992 to 6.2 percent in 2002 of the state budget. Furthermore, the mitigation policies have been repeatedly readjusted to accommodate socio-political and economic changes in the country and the increasing knowledge and expertise in handling this type of situation. The new findings and changes have been incorporated into the state programmes on mitigation of the consequences of the Chernobyl NPP accident for 1990–1992, 1993–1995 and through 2010.

During the period of 1996–2002, the targets set by the state programmes and a number of provisions of the NSDS-97 dealing with the minimisation of the Chernobyl aftermath were enacted. More specifically, the main focus was the health protection of affected populations and the creation of favourable living conditions for people living in contaminated areas. For instance, the problem of internal irradiation was addressed through adoption of the "National Allowable Levels of Caesium-137 and Strontium-90 in Food and Water" (NAL-99) and the Law "On Public Radiation Safety" (1998). Starting in 1986, a total of 136,600 people were relocated to clean areas and since then, most of the resettlement efforts have been completed. From 1996 to 2001, various Chernobyl-related programmes facilitated the construction of 341,000 m^2 of housing space, 5,266 apartments, high schools for 5,929 pupils, preschool facilities for 2,130 children, outpatient clinics for 1,950 visits per shift, and hospitals for 1,436 beds. Over one million people go through a thorough medical examination every year. The establishment of social and psychological rehabilitation centres is complimented by annual free medical activities that accommodate the needs of the greater portion of the eligible population.

Construction of 1,015 km of gas pipelines, 252 km of water supply lines, 15 km of sewers, and 72 km of hard-surface roads has enhanced the living conditions in the contaminated areas. Proper sanitary conditions in the most disadvantaged areas with the highest degree of contamination are maintained through various decontamination and development activities. Comprehensive socio-economic recovery plans were formulated for ten districts of Gomel and Mogilev Oblasts.

Production of healthy agricultural goods became possible owing to new technologies, cultivated hayfields and pastures, caesium-absorbing food additives, and land reclamation activities. The combination of these measures helped to considerably reduce agricultural output with excessive radionuclide content.

Radiation monitoring and special protective measures against forest fires in exclusion and resettlement zones prevent the transfer of radionuclides to clean and less contaminated areas. A special body called Administration of Exclusion and Resettlement Zones oversees and enforces prescribed practices in these areas and facilitates rehabilitation efforts.

Co-ordination of international resources helped address the issues faced by the contaminated areas and carry out several joint projects. These include the UN Support Programme for Chernobyl Affected Areas, Programme of Joint Activities for Mitigation of Chernobyl Consequences Under the Belarus-Russia Union, IAEA initiatives, TACIS programmes, UNESCO-Chernobyl, etc. Recently, the Chernobyl Committee and the Belarusian Ministry of Foreign Affairs have been pro-active in drawing the attention of the world community to the Chernobyl theme and keeping it at the top of the agenda.

A summary of major achievements in mitigating Chernobyl consequences in the late 1990s leads us to

Despite financial constraints and insufficient attention from international organisations, Belarus has managed to tackle a series of formidable achievements in mitigating Chernobyl consequences. None of the above tasks, however, have been

Table 3.5.1

Number of residential zones found in radioactively contaminated areas and their populations

Indicators	Number of localities	Population	Including children aged 0-17 years
Republic of Belarus, total	2,802	470,544	341,436
including:			
urban settlements	33	1,005,426	238,902
rural area	2,769	465,118	102,534
Oblasts:			
Brest Oblast, total	158	149,266	38,350
including:			
urban settlements	5	64,086	17,268
rural area	153	85,180	21,082
Vitebsk Oblast, total	2	30	–
including:			
rural area	2	30	–
Gomel Oblast, total	1,504	1,146,246	263,157
including:			
urban settlements	21	878,123	205,190
rural area	1,483	268,123	57,967
Grodno Oblast, total	137	23,485	5,259
including:			
urban settlements	2	11,871	3,165
rural area	135	11,614	2,094
Minsk Oblast, total	164	16,819	3,604
including:			
rural area	164	16,819	3,604
Mogilev Oblast, total	837	134,698	31,066
including:			
urban settlements	5	51,346	13,279
rural area	832	83,352	17,787

Source: Ministry of Statistics and Analysis of the Republic of Belarus

the following conclusion: despite financial constraints and insufficient attention from international organisations, Belarus has managed to tackle a series of formidable tasks regarding the establishment of a regulatory framework, improvement of healthcare and social protection of all segments of the affected population, as well as living conditions in the contaminated areas, creation of reliable radiation and environmental monitoring. Furthermore, Belarus has made progress in developing allowable contamination standards for agricultural and forestry produce in the contaminated areas, and in preventing to the extent possible the transfer of radionuclides to clean areas. None of the above tasks have been completed due to their large scope and lack of funds or relevant expertise, while some of the problems have become even more severe.

The key radiation, medical and biological parameters of the area in question indicate a new stage where long-term consequences of the disaster become evident and need to be checked. While the socio-economic and demographic situation has seen little improvement, the mitigation policy calls for a comprehensive revision. This point is strongly reinforced in the findings of the National Report "Chernobyl Consequences in Belarus: 17 Years Later" (Minsk, 2003). Still, a large part of the population (604 residential areas in 2001) living in contaminated areas, receives an average annual dose higher than the officially approved norm (1 m^2v). Health and demographic indicators are deteriorating – in contaminated areas the mortality rate is twice as high as the birth rate, and life expectancy decreased from 73.1 to 67.2 years during the period 1993–2001 (the average for the country – from 69.2 to 68.5). The incidence of radiation-induced thyroid cancers is rising, more younger women are being diagnosed with breast cancer and the number of healthy children living in "unclean" areas is declining. Agricultural enterprises (the primary source of rural employment) are mostly loss-making due to the additional costs they have to carry, and they cannot provide people with sufficient livelihoods. A considerable portion of agricultural produce is not compliant with NAL standards, especially if it is grown in private gardens. The amount of funding the state can release from the budget does not cover the full needs of Chernobyl mitigation efforts – in the past decade, expenditures slipped below 15 percent of the total sum of social and economic damage inflicted during that period.

Sustainable development of the contaminated areas suffering the consequences of a global disaster is hardly attainable without international assistance

The strategy of mitigating Chernobyl disaster consequences must be updated in strict accordance with the sustainability principles listed in the Agenda 21 findings of the 2002 Sustainable Development Summit and the goals of the most fundamental document of the new millennium – the "United Nations Millennium Declaration" adopted at the Millennium Summit in New York in September 2000.

Sustainable development of the contaminated areas suffering the consequences of a global disaster, whose full implications for humankind cannot be assessed at this stage, is hardly attainable without international assistance. For emergencies such as this, the Millennium Declaration makes a commitment "to intensify co-operation to reduce the number and effects of natural and man-made disasters" (Clause 23) and states that, "We will spare no effort to ensure that children and all civilian populations that suffer disproportionately the consequences of … humanitarian emergencies are given every assistance and protection so that they can resume normal life as soon as possible" (Clause 26).

The primary objective of the current State Programme on Mitigation of Consequences of the Chernobyl NPP Accident for 2001–2005 and through 2010 is to reduce the health, social and psychological risks of the disaster, and to ensure normal functioning of the radioactively contaminated areas through their socio-economic and ecological rehabilitation.

The updated Chernobyl mitigation strategy, which envisages the comprehensive environmental, social and economic rehabilitation of affected areas, is already being developed. A number of activities were specifically designed to increase employment and income opportunities, foster private enterprise and enhance the overall economic efficacy of affected areas.

In 2001, Presidential Decree No.10 (updated in 2002) "On Socio-Economic Recovery of Areas Affected by the Chernobyl NPP Accident" provided considerable tax privileges for economic entities located in the 13 most contaminated districts giving them special economic status. The year 2002 was the beginning of agricultural re-orientation from crop production to cattle breeding (beef production) in the most contaminated districts of Bragin, Khoiniki, Narovlyany. Agricultural specialists of agriculture, doctors and teachers are attracted to the area through various housing schemes while school graduates are entitled to preferential enrolment in universities and vocational schools.

The improvement of health and social support of the affected population is achieved through streamlined benefit distribution that enables the purchase of medical equipment and maintenance of housing and utilities in Chernobyl-affected areas. Moreover, it enhances gas supply under the respective programme and supports construction of a specialised health centre in Gomel and other social infrastructure sites as well as expansion of the network of governmental social and psychological assistance centres.

Now is the right time for intensified and targeted international support of the areas that need it most. In 2002, a UN Mission prepared a report "Human Consequences of the Chernobyl Disaster. Recovery Strategy" and the World Bank prepared a report "Belarus: Review of the Chernobyl Consequences and Rehabilitation Programme", both of which were instrumental for international co-operation arrangements. The first report sets out recommendations to address the vital needs of the affected population based on the UN's expert analysis of living

conditions in the contaminated areas. The report proposed a shifting of the international assistance priorities from humanitarian aid to socio-economic rehabilitation and sustainable development of affected areas.

This particular approach is typical of current international co-operation on Chernobyl issues. For example, UNDP is undertaking fundraising activities for nine new projects (including three for Belarus) focusing on the integrated rehabilitation of affected areas. The UN created the Chernobyl Research International Network and the IAEA initiated the Chernobyl Research International Forum for the express purpose of discussing health and environmental effects of the Chernobyl disaster. Complementary to the technical co-operation with IAEA, the 2003–2005 UNICEF Master Pean of Operations approved in 2003 and the ongoing UNDP co-funded project "Strengthening Partnerships and Mechanisms of Pooling Resources for Minimising Chernobyl Consequences" are implemented. Belarus continues to raise extra funds by collaborating with foreign charitable organisations as well. In 2002 alone, Belarus received humanitarian aid totalling USD 45,767,000 and 57,226 children had the opportunity to go abroad for recuperation.

Nonetheless, the world's concern about Chernobyl problems is visibly slackening. Therefore, it is necessary to keep international organisations continually well-informed about the effects of the Chernobyl disaster that are too large to be handled by the country without external assistance. Directly affecting the country's human development, these effects include an increase of the radiation-induced morbidity and mortality rate among the affected population and their degraded living standards and quality of life. Removal of these sustainable development barriers as they apply to this disaster-stricken area in the centre of Europe is hardly feasible unless joint efforts are made.

ECOLOGICAL CONCERNS BEYOND CHERNOBYL

The second largest area of ecological concern in Belarus is the Belarusian Polesie. This area also comprises the Soligorsk industrial region, another area of concern. The Belarusian Polesie is an enormous territory with an area of over six million hectares located in the south of Belarus and accounting for 32 percent of the country's territory and 28 percent of the total population. The Belarusian Polesie is part of the Polesie Lowland, the largest in Europe (nearly 13 million hectares). It is distinguished by an abundance of mires and forests and specific climates, hydrology, geomorphology, soils, flora, fauna and landscapes, all of them giving the Polesie its singular natural look and greatly contributing to the environmental sustainability of not only the local states (Belarus, Ukraine, Poland), but of the rest of Europe as well. It boasts major deposits of potassium and rock salt, oil, building stone, shale oil and brown coal, significant reserves of peat, fusible and refractory clays, mortar and quartz sand, mineral water, industrial brines, and fossils. The land, forest and water resources of this region are essential for the country's economic needs. The region accounts for nearly 30 percent of the country's agricultural goods and about 26 percent of its industrial output.

Nonetheless, the Belarusian Polesie is presently known as a problem region with a number of socio-economic development indicators that are lower than elsewhere in the country. The greatest setback is an environmental issue of large magnitude that prevents sustainable development and the creation of an enabling environment in the region. It also affects the ecological situation in both Belarus and Europe. Problems of the Belarusian Polesie are caused by a variety of factors, including: the adverse impact of the large-scale land drainage of the 1960s, 1970s and 1980s (1.8 million hectares of wetlands, including almost 700,000 hectares of peat mires, were drained); the unwise agricultural use of the reclaimed land, particularly peatlands; the contamination of the area after the Chernobyl disaster (23 of 35 administrative districts of Polesie exhibit various degrees of contamination); and the environmentally unfriendly mining of potash, quarry stone, oil, peat and other minerals.

The world's concern about Chernobyl problems is visibly slackening

While they initially produced substantial socio-economic results (increase of high-yield farming area, growth of agricultural output, and improvement of living standards), the drainage activities eventually led to the degradation of certain unique natural areas and landscapes of the Polesie Region, including the wetlands and floodplain oak forest, and have caused a loss of biodiversity. This mainly results from the unwise use of the reclaimed land and a decrease of valuable peat soils (nearly one third of those degraded lost most of their fertility). Erosion by water and wind plagues the drained land, peat and forest fires become more frequent, and even desertification seems to have become a major problem. During the past decade, land degradation intensified due to the economic crisis, which cut heavily into the amelioration and agricultural support budget.

In addition to contamination issues and other problems described above, the environmental conditions of the Polesie Region (2.3 million people live in affected areas) are getting worse due to the increased carry-over and redistribution of radionuclides on drained peatlands, intensive deflation, high fire risks and higher rates of radionuclide penetration into agricultural produce.

There are reasonable grounds to single out the Soligorsk Industrial Region as a separate problem area. The launch of "Belaruskali", a plant in Soligorsk for extracting and processing potassium, has greatly affected the ecological balance in Polesie. By this point in time, slag heaps 120–150 meters high represent nearly 600 million tons of halite wastes covering an area of approximately 500 hectares. In addition,

over 65 million tons of clay-and-salt sludge stored in sludge traps cover an area of over 700 hectares. This contributes to the local salinisation of surface and underground water, worsens air pollution, and creates a potential threat of saline water changes for a considerable section of the Pripyat Polesie and of cross-border transfer of dust salt. In addition, nearly 40 square km of the area's hollow mines are vulnerable to sinking (down to 4–4.5 meters), water-logging and local earth tremors.

Surface and ground waters are negatively affected by several factors, including a 120-meter deep granite open-cast mine near Mikashevichi, which causes changes in the hydrological regime within a radius of 10 kilometres, and by the extraction of oil (prospecting and use of the deposit spoiled some 700 hectares of land) and other minerals. A potentially difficult geo-ecological situation awaits the areas containing large reserves of brown coal, oil shale and table salt when extraction is started.

Alongside with the Chernobyl area, the Belarusian Polesie and the Soligorsk Industrial Region are facing environmental problems of large magnitude that prevent their sustainable development

Waste, pollution and effluents from Gomel, Brest, Mozyr and Pinsk (the largest industrial centres in the region), large cattle breeding farms, oil and natural gas pipelines and from highways and railroads unquestionably contribute to the worsening of the Polesie environment.

On the other hand, Polesie has been able to preserve large forests and wetlands in their natural condition (nearly 680,000 hectares of fen mires), as well as considerable tracts of watered floodplains (480,000 hectares). These areas are of global importance and serving as carbon sinks, helping to conserve the biodiversity and landscape diversity of Belarus and Europe. The network of protected areas is quite developed in this area and cover nearly 500,000 hectares or eight percent of the region's territory.

Therefore, preserving the natural and anthropogenic geo-system of Polesie, modified but still possessing a biosphere potential of importance to Europe, requires thorough revision of the current environmental management strategy of the region and the development of new, streamlined approaches and economic practices in all areas of human activities.

The analysis shows that environmental research in the Polesie Region intensified in the second half of the 1990s in the form of the preparation of the National Strategy and Action Plan for the Conservation and Sustainable Management of Biodiversity in the Republic of Belarus, and through the implementation of the programme "Nature Use and Environmental Protection – 2000". The review also testifies to the aggravation of agriculture-related problems in the region in the past decade (degradation of drainage facilities, land contamination, frequent floods, droughts, frost, worsening demographic indicators). Thus, institutes, universities and various research centres specialising in land drainage, agriculture, forestry, and urban development have doubled their fact-finding efforts and channelled their expertise into the Polesie Region. As part of the Belarusian National Academy of Sciences a special department dealing with Polesie issues was set up in Brest, along with the Scientific Council for Polesie issues. The research findings within this period of time warranted a number of big international scientific conferences on nature conservation (1998, 2002, 2003), on the development of agriculture, and on the amelioration of Polesie (2000, 2001). State programmes on conservation and management of the reclaimed land, protection of residential areas and agricultural land against floods, etc. had been duly adopted and is now under way. The Pinsk-based Belarusian Polesie Fund was set up to increase awareness, spread information about the problems of Polesie and raise funds to address them. The International Fund "European Polesie" was established in 2003 to consolidate research resources and means for tackling Polesie challenges.

However, the highly complex task of ensuring the environmentally friendly use and protection of natural resources in the Belarusian Polesie, modified by human influence, has yet to be achieved. Thus, the sustainable development of the region is attainable through research efforts concerning all development aspects with an emphasis on social and economic consequences. The evaluation and recommended modification of the region's natural resources must contain an impact assessment of the potential changes in the life and business of the population living in the region and the country as a whole. The natural capacity assessment should include proposals on priorities and optimised management of land, water, biological and mineral resources.

Among the most urgent tasks are:

- to establish in Polesie an ecological network with an increasing share of protected areas and international biosphere reserves through a cross-border arrangement with Ukraine and Poland and integrate it into the European ecological network;
- to assess the current state of drainage facilities and reclaimed land and set forth proposals on their better management in the future;
- to formulate the best economic development schemes for the region;
- to assess and forecast the public living standards in the region as compared to the suggested development strategy; and
- to provide a rationale for different areas of international co-operation on the issues of the Belarusian Polesie.

The Belarusian Poozerie is a natural area of approximately five million hectares (24 percent of Belarus' land and 16 percent of the population) located in the north of the country and which includes the Novopolotsk Industrial Centre, identified as a separate problem region. The Belarusian Poozerie is a unique natural area similar to other fluvio-glacial territories. The diverse and young glacial relief and dense hills are complemented by numerous lakes – in some districts, lakes cover 10 percent of the area. The hills and many lakes complicate agricultural development of

the area, but on the other hand, it is this varied topography that makes the flora and fauna diversity and composition of the Poozerie so unique. Moreover, its original and picturesque landscapes make it extremely valuable as a recreational site and a protected area.

The Belarusian Poozerie, whose economic management requires a new environmental dimension, is a truly important area due to its unique landscapes and biodiversity, which has been minimally affected by human influence. It is the only "clean" region of Belarus uncontaminated by the Chernobyl disaster and is rich in scenic and primeval forest, lakes and rivers and offers spas and curative mud. It is also home to good hunting, fishing, and gathering of valuable wild medicinal herbs, berries and mushrooms. However, this region requires better agricultural practices. As a drawback, this region houses the modernised oil refineries of the Novopolotsk Industrial Centre.

Therefore, to ensure the sustainable development of the Belarusian Poozerie, it is necessary to preclude any adverse ecological effects, and conserve this natural area by preventing any possible disturbance of the region. In the early 1990s, Belarusian scientists developed the Concept of Integrated Management of Natural Resources of the Belarusian Poozerie which proposed general guidelines for integrated area development, taking into account the various agricultural, forestry, recreational and nature conservation activities in the area. Basically, this document formulates a sustainable development concept for that region linking together ecological, economic and social modalities.

During the past decade, the environmental situation in the Poozerie has improved because large-scale development was not feasible due to financial constraints. Pollution decreased because of a downturn in all industrial sectors, and two large national parks, "Narochanski" and "Braslav Lakes", were established. However, at present, when economic recovery is highly dependent on local resources, ecological aspects of development advance to the foreground. Against the backdrop of resources shortages, the main contributors to ecological disturbance in the region during economic recovery potentially include: the development of agricultural land and reintroduction of cattle-breeding facilities; boosted capacities of oil refineries and chemical industries; the timber industry; the extraction of building materials, sapropel, and construction of small-scale water power plants; accelerated development of recreational business without proper consideration of the ecological pressure on ecosystems; and shortages of skilled human resources in rural areas.

Thus, sustainable environmental management must become a priority within the Belarusian Poozerie sustainable development concept. More specifically, the strategy for environmentally friendly use of the natural habitat in the Belarusian Poozerie must envisage:

- agricultural reform based on the assessment of agro-industrial potential and capacities of different landscapes;
- a thorough ecological and environmental analysis of land development methods considering the region's specifics;
- rational management of lakes for economic purposes, their ecological and economic assessment and controlled conservation activities;
- reservation of territories for recreational use, ecotourism, hunting, and expansion of protected areas;
- enhanced application of wild mushrooms, berries, and medicinal herbs in forested areas; and
- consultations with bordering countries on ecological issues and the generation of foreign investment for environmental projects.

Making technological processes within the Novopolotsk Industrial Centre more environmentally sound should become the top priority for the region. Even now, when the joint-stock companies "Naftan" and "Polimir", and the Plant of Protein and Vitamin Concentrates are far from operating at their full capacity, the town of Novopolotsk is still a leading source of pollution compared to other Belarusian towns and cities – nearly 14 percent of the total amount throughout the country.

Sustainable environmental management must become a priority within the Belarusian Poozerie sustainable development concept

Surely, the cost of conserving the Polesie and Poozerie Areas – the two largest unique natural areas instrumental for environmental sustainability not only in Belarus, but also in Europe as a whole – should be shared with other European countries and international organisations. There are already many shining examples of prolific collaboration in that field.

Another specific area of ecological concern is the Minsk Capital Area comprising Minsk and the Minsk District. The main ecological challenge it faces are how to improve the quality of the environment in the most urbanised region of the country, where the size of the population accounts for 18.7 percent and industrial production is more than 23 percent of the country's total, while the actual area occupies only slightly more than one percent of Belarusian territory.

The population of the Minsk Capital Area (also referred to as "Greater Minsk") currently enjoys the highest living standards, education level, life expectancy and the lowest unemployment rate in all of Belarus. On the other hand, Minsk ranks second on the list of sources of air pollution, accounting for 13.5 percent of overall air pollutant emissions in the country. It discharges 26.2 percent of the country's effluents. According to a comprehensive environmental assessment of Minsk, 30 percent of its territory is rated as "extremely unfavourable" and 35 percent as "unfavourable" in terms of ecology. The Minsk District has several similar territories as well.

Apart from the environmental aspect, development problems of the Minsk Capital Area include a structurally flawed economy unable to perform the functions of a big city (industrial over-development aggra-

Sustainable development of areas in depression in Belarus can only be ensured through the resolution of the country's macroeconomic problems

vated by underdevelopment of the service sector). Growth of city administration and district boundaries to accommodate territorial expansion of the entire area is also a problem. The Minsk Master Plan for 2020 (approved in 2003) has articulated and to some extent addressed these and other problems.

The Euroregions "Neman", "Boug", the future Euroregion "Dnepr", as well as a series of joint projects on the elaboration of management regulations for cross-border protected areas, also address certain development problems of border territories, but so far there has not been any impressive achievement in this field.

Sustainable development of areas in depression, including virtually all agricultural districts and small towns, can only be ensured through the resolution of the country's macroeconomic problems.

CHAPTER 4

Adequately Responding to Challenges as a Way Towards Facing Sustainable Human Development

4.1. Wise macroeconomic policy and a better management systems

At the end of the last century, the socialist world lost the economic competition with capitalist societies and had to initiate the transition to a market economy. This was done in recognition of the fact that a market economy is the most effective in establishing a strong material base for human capital development. The specific models of transformation to a market economy in different countries with centrally-planned economies vary. Some countries have applied a revolutionary "shock therapy," while others, like Belarus, have chosen an evolutionary approach.

The Belarusian model has been taking shape for more than ten years. Although historically speaking it is still in its infancy, one can already see a clear outline of its distinctive features. The important factors influencing this model are similar for most transition countries in Europe, such as science, education, culture, technologies, and historical economic conditions. At the same time, the Belarusian model has its own peculiarities that reflect Belarusian specifics.

Peculiarities of the Belarusian model

Over the past decade, the socio-economic development of Belarus has been generally and decisively oriented to a market system whose formation accommodates the country's specifics and national characteristics. A scientific analysis of these processes indicates that tens of years of socialist development in the industrial-agrarian Belarusian context with strong paternalistic cultural roots have resulted in an economy that incorporates the traditions of collective thinking and reflects a national mentality that values such basic principles as solidarity and social justice.

Social and cultural values such as restraint, tolerance, discretion, and traditional reliance on a powerful state expected to protect its people from external threats and social injustice also contribute to the specifics of the Belarusian model. All these elements meant a crucial role for the central government in maintaining political and social stability. As a result, Belarusian society has favoured a moderate and evolutionary approach (and not "shock therapy") to market reforms and transition in general.

Belarus' choice of the socially-oriented market model stems from the firm intent of its government to guarantee decent living conditions for its citizens. In addition, Belarus can and should put people at the centre of economic development objectives. There are good reasons for this. First, it is human development, creativity and intellect that constitute the main productive force and ultimate competitive advantage. Second, the human factor is the key resource of Belarus, providing it with a fighting chance to take a productive place in the world economy.

Monetary stability

Monetary policy is a powerful macroeconomic instrument most often used for the establishment of the efficient economic function of a country. For this instrument to be effective, there must be equal opportunities and conditions for all economic entities in the country, regardless of their ownership.

This mechanism should be built on the following paradigm:

- simultaneous rehabilitation of the economy in financial and industrial spheres;
- sufficient commodity securing for any monetary emissions;
- introduction of strict financial discipline, including application of bankruptcy rules;
- limitation of financing of public spending through the issuance of government bonds. Additional issuances of government bonds should be permitted only after a corresponding increase in investment programmes funded by the state budget.

Adherence to this paradigm would allow reduction of inflation, which ultimately plays a definitive role in the determination of interest rates and national currency exchange rates. The latter are key factors in fostering public savings, encouraging investment in the real sector, and regulating credit volumes in the

Tens of years of socialist development in the industrial-agrarian Belarusian context with strong paternalistic cultural roots have resulted in an economy that incorporates the traditions of collective thinking and reflects a national mentality that values such basic principles as solidarity and social justice

Box 4.1.1

Human capital as Belarus' contribution to global integration processes

Belarus has considerable resources of highly skilled and educated personnel to accommodate the needs of high-technology and capital-intensive industries. Naturally, the country intends to preserve them for its own development. It is this human capital – the highly educated, scientific and cultural potential of the nation – which is currently the main commodity Belarus can actually use to invest in the world economic integration processes and in the development of high-technology and science-intensive industries. It is this intellectual capital that sets Belarus apart from developing countries. The country managed not only to preserve its scientific potential, but also to ensure its development and thus facilitate the creation of high technologies that are currently becoming the instrumental factor for a stronger national economy.

Source: M.V. Myasnikovich, Belarus Within the Context of Globalisation // Gazette of the Belarusian State Economic University. 2001.

national economy.

A paramount condition for maintaining a low inflation rate in the economy is coordination and reconciliation of monetary and fiscal policies, which presume minimal budget deficits or none at all.

At the same time, it is necessary to minimise the costs and negative effects of stabilisation policy. Abrupt termination of the state fiscal policy could cause mass industrial bankruptcies, soaring unemployment, increased social tension, and, ultimately, deteriorated living conditions. Therefore, the government should proceed with discretion in tightening the monetary and fiscal parameters and link them to the structural reforms in the real sector. The gradual nature of changes, however, should not mean permanent delay in practice. Appropriate application of macroeconomic financial instruments should stimulate rapid economic growth and be amplified, depending on how well enterprises adapt to the new working requirements.

The gradual nature of changes in the field of monetary policy should not mean permanent delay in practice

The basic requirements for a more stable banking system are:

- steady and secure functioning of the banking system in conformity with the world standards; and
- an improved profile of banking services (range of services, prices, quality, reputation, geographical accessibility, etc.) that ensure competitive advantage.

The main controlling instruments for bank security and management are the so-called "prudential norms" established by the National Bank - basic requirements for capital, liquidity, quality of assets, concentration of risks, etc. Enhancement of the control of banking activities involves:

- establishment of unified regulation and control of organisations autorised to lend money;
- introduction of uniform requirements for registration and licensing of organisations authorised to extend credit, as well as for the international audit of banks and other organisations;
- establishment of a modern, integrated and automated system of bank financial assessment based on accountability;
- introduction of consolidated supervision of bank associations, and formation of a set of norms that adhere to the Basel Committee on Banking Supervision international standards;
- introduction of a tracking system of market risks in conformity with international standards; and
- use of short-term and long-term forecasts of bank reliability and financial solvency, and implementation of corrective countermeasures in a timely manner.

Monetary stability is not an end in itself, but rather a prerequisite for the sustainable macroeconomic development of the country. Unresolved ownership issues and the lack of any radical market-oriented changes are the principal barriers preventing money from performing its main role of regulating market supply and demand.

Belarus' fiscal policy should be radically modified to become more of an incentive function rather than just a spending mechanism. The deteriorating financial status of Belarusian enterprises constitutes a serious threat to the budgetary process. The net profitability of the national industry in general has decreased over the period January-December 2002 to 8.7 percent and is not sufficient to cover production costs. The share of loss-making enterprises has doubled over the past three years, reaching 34.9 percent. Outstanding debts to the state budget and extra-budgetary funds have increased over January-December by 1.9 times, making it difficult to avoid a budget deficit or even to maintain it at the level of 1.5 percent of GDP. In fact, the situation calls for decisive measures to improve fiscal policy efficiency. Specifically, the following immediate remedial action should be taken to reform Belarus' fiscal policy:

- Reduce the tax burden of enterprises and improve their financial status by reducing the share of transfers from company revenues to the government to 1-2 percent of the revenues, in line with world practice;
- Reduce other tax payments. Belarusian enterprises are required to pay up to twenty different taxes, including payroll and turnover tax. This unnecessarily complicates the taxation mechanism, increases taxation-related costs, and leads to the levying of multiple and redundant taxes;
- Abolish the practice of individual tax privileges. Tax privileges should stimulate growth of the tax base. To this effect, tax relief should be granted to promote investment in the expansion and technical reconstruction of industrial production, and in applied and fundamental research; and
- Enhance the role of resources payments. This would require: a) differentiation of land tax rates depending on the intensity and designation of land use (agricultural, housing site, industrial production, commercial use, etc.); b) exemption of fixed assets used in production from real-estate taxes to facilitate technical renovation of industries.

To rectify the shortcomings of the current practice of payroll taxation, and thus enhance the competitiveness of Belarusian enterprises, it is essential to:

- Standardise the levying of social taxes for a simpler and cheaper taxation system;
- Establish a mechanism of individual registration within the social insurance system to reflect personal participation in the formation of insurance reserves.

Similarly, budgetary policy requires the following interventions:

- Reduce budgetary spending and devote more financial resources to high-priority structural reforms and the enhancement of economic competitiveness;
- Curtail subsidies for agriculture, public transport and utilities, etc.;
- Further commercialise services in the healthcare system, sports and education;

- Enhance spending on applied scientific research projects through competitive mechanisms and attract extra-budgetary resources;
- Improve budgetary procedures and implement stricter control on the targeted use of budget funds;
- Encourage more efficient distribution and use of budgetary resources through tenders and auctions;
- Increase the share of state investments in facilities contributing to the efficiency and competitiveness of the Belarusian economy on a pay-back basis;
- Improve the state treasury system so that it covers the full range of financial operations;
- Reform the budgetary system by implementing a phase-out of subsidies for local budgets, reducing counter cash flows, and, thus, enhancing financial efficiency;
- Finance the budget deficit and settle the national debt through the issuance of government bonds and attraction of external resources;
- Develop the draft Budgetary Code of the Republic of Belarus, provide a legal framework for the Union State's budget policy, and harmonise budget legislation with the Russian Federation.

REFORM OF THE ECONOMIC MANAGEMENT SYSTEM

The existing national economic management system of Belarus builds upon sectoral and territorial management and aims to foster the comprehensive socio-economic development of the country.

Further upgrading of the state governance system requires:

- improvement of the quality and role of the state forecasting and planning system;
- optimisation of administrative procedures by excluding redundant echelons, avoiding overlaps, and downsizing the amount of document circulation;
- a shift toward sustainable economic growth and competitive capacity building; and
- implementation of consistent and systemized personnel policy and establishment of efficient training and re-qualification of management personnel.

Reform of national economy management needs to be undertaken at various levels in the following key areas:

1. National level. Development of recommendations for the optimisation of state administration procedures, including: activities of the government, ministries, state committees and concerns; co-ordination of socio-economic activities in general and by sector (structural, investment and financial policy) and capacity building for focal ministries.
2. Sectoral level. Enhancement of co-ordination and integration among various sectors of the national economy; rationalisation of structures, functions and staff of ministries, state committees and concerns;
3. Regional level. Establishment of effective linkages between national and local governments; rational distribution of rights, functions and responsibilities of local administrations.

The establishment of corporate industrial structures contributes to the improvement of the national economic management system. Below are the priorities supported by the Government, which should be taken into account when selecting organisational structure, forms and instruments of corporate integration:

- priority of large, joint stock holding companies with high centralisation of management and control of joint activities;
- priority of corporations manufacturing high-tech products with an increasing level of value added;
- priority of regional corporations;
- priority of major diversified corporations based on cross-sectoral integration that can considerably facilitate the restructuring of industries and individual sectors;
- priority of trans-national corporations such as trans-national financial and industrial groups capable of forging genuine partnerships, co-ordination, and scientific and technological co-operation with foreign partners and international financial and industrial groups created by intergovernmental agreements.
- a transportation management system that concentrates on the establishment of a single transport complex for the Union State of Belarus and Russia; and
- implementation of gradual structural and functional reform in social sector management with a view to harmonising implementation and legislation between Belarus and Russia.

The net profitability of the national industry in general has decreased over the period January-December 2002 to 8.7 percent and is not sufficient to cover production costs

The formation of corporate structures would enable the country to take advantage of the existing potential for vertical integration, and ensure co-operation of the raw material and processing industries with better access to financial capital. The relationships between the central government and enterprises that are integrated into state concerns (financial and industrial groups) should build upon task sharing in the administration of state property and operation of enterprises. Within the context of external economic management, the proposed changes would primarily include amendment and specification of the new functions that appeared as a result of the intensified integration with Russia and the expansion of foreign economic activities. Finally, regular briefings should be prepared for the Belarusian President and the government about foreign policy developments.

It should be noted here that the core of US industry includes about 100 diversified corporations that are highly integrated financial and industrial groups. They account for 55–60 percent of the US GNP, 45 percent of gross employment, and 60 percent of investment. In Japan, six major sudanois (financial and industrial groups) account for 14–15 percent of GNP. Virtually all large and medium-sized industrial enterprises of South Korea are part of chaebols (financial and

The establishment of corporate industrial structures contributes to the improvement of the national economic management system

industrial groups). In Russia, 75 groups officially belong to such financial and industrial groups. In fact, they embrace 1,150 industrial enterprises and over 160 finance and credit organisations, with an annual turnover reaching 10 percent of GDP. Out of the 200 largest Russian companies, 130 have joined officially registered financial and industrial groups.

In terms of structure, financial and industrial groups can be divided into the following types:

- vertically integrated, where enterprises operate within a closed technological circuit;
- horizontally integrated, which includes full-cycle, cross-sectoral enterprises complete with auxiliary areas of activity; and
- conglomerated, where economic entities are not technologically interconnected, but whose finances are controlled by a single governing or head company.

For Belarus, the best applicable type is that of the vertically integrated groups with a cross-stock ownership arrangement, because such groups are the best at accommodating the specifics of the highly integrated industrial complexes of the former Soviet countries and their relatively underdeveloped financial and trade structures.

Subsequently, in the interest of greater sustainability and business expansion, it will be possible to develop horizontally integrated groups to control hi-tech sectors of allied industries. This should contribute to the capacity building of banking, trade and other structures within the financial and industrial groups themselves.

4.2. Facilitating structural and institutional transformations

Recent economic growth in Belarus is primarily the result of tightened administrative control of enterprises and expansionist monetary policies. They contribute to the promotion and support of certain sectors of the economy (above all, agriculture and construction), but concomitantly boost inflation and contribute to currency depreciation, which negatively affect economic growth in the long run. Thus, the short and mid-term benefits come at a price in the long-term.

At the same time, it should be recognised that current macroeconomic and institutional policy has had a positive impact, keeping the country out of deep economic crisis. The cautious approach of gradual transformation opted for by the Belarusian authorities has helped the country to avoid the uncontrollable squandering of assets and resources accumulated through the hard work of many generations of Belarusian people. However, the most recent experience suggests that if pursued indefinitely, this policy could jeopardise the socio-economic development of the country because of the risks represented by an

Table 4.2.1

Summary data on progress of privatisation in Belarus, 1991–2002

Name of indicator	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1991 – 2002
Total number of enterprises changing ownership,	61	190	244	641	465	488	477	329	307	177	94	191	3664
including:													
Central government assets	19	32	140	184	53	98	97	51	106	52	24	87	943
Communal assets	42	158	104	457	412	390	380	278	201	125	70	104	2721
Type of privatisation:													
Leasehold buy-out by leased companies	34	47	57	152	35	58	76	53	49	13	5	4	583
State property buy-out by labour collectives	13	87	24	12	1	0	0	0	0	0	2	0	139
State property buy-out by individuals	0	2	0	0	0	0	0	0	0	0	0	0	2
Incorporation	3	4	71	216	257	222	178	89	184	130	63	153	1570
Sale by tender	11	50	51	96	32	42	41	24	14	18	12	17	408
Sale by auction	0	0	41	165	140	166	182	163	60	16	12	17	962
Number of employees at enterprises that changed ownership, in # of people	23,263	47,190	128,066	14,611	73,932	74,224	104,999	38,180	57,036	42,678	20,359	106,012	857,550

Source: Department on State Property Management of the Ministry of Economy of Belarus

increase in loss-making companies and non-payments, falling investment, growth of unemployment and declining economic competitiveness.

FORTHCOMING REFORMS AND THE ROLE OF THE STATE

Under the circumstances, it will not suffice to simply "redecorate" the institutional environment – substantive and consistent reforms focused on the long-term improvement of economic performance are necessary. This does not mean that fundamental changes in the field of liberalisation, privatisation, private enterprise, etc., should appear overnight. At the current stage of Belarus' socio-economic development, the key principles are consistency, gradualism and a well-balanced system of transformations, ruling out the possibility of shocks that might cause unpredictable results.

State institutions are responsible for enforcing any institutional changes, whether they come from the "top" or "bottom". Hence the direction and pace of change depends on the efficiency of these structures and their interest in achieving national goals, as well as on the participatory model of governance. For this reason, countries with robust and resilient democratic institutions display the most impressive successes in the market economy. In addition to democratic rights and freedoms, a democratic society implies real acceptance by the state authorities of their responsibility to society and true influence of the population on the state. Hence, establishing a framework that would promote citizens' participation and involvement in policy making processes as well as in the control over government activities is a necessary precondition for the success of the reforms.

Articulating and communicating a concept of socio-economic transformation that can gain broad popular support and addressing the fundamental challenges of reform is the task of today's political elite. The keyword of such a development trajectory is "competitiveness". Various studies suggest that the major challenges the Belarusian economy faces are improving its competitiveness and forging a path to a stable, high per capita final consumption and gross savings. The socio-economic reform and institutional changes in the country should be placed within this particular context and should focus on utilising and developing the country's competitive advantages, as well as creating new ones.

Primary factors that hamper the country's competitive advantages include:

- slow privatisation, which hampers investment growth and private initiative;
- administrative barriers hindering the development and activities of private enterprise;
- insufficiently favourable investment climate, putting domestic and foreign investors at risk;
- high tax burden restraining manufacturers and expanded reproduction;
- poor macroeconomic and fiscal stability still marked by a considerable inflation rate;
- underdeveloped financial markets, low stability and security of the banking system, and deficient loan mechanisms; and
- lack of innovation resulting in inefficient use of available human capital and research products.

Overcoming these impediments would improve national industries' competitiveness and would boost investment flow into Belarusian economy.

PRIVATISATION

The experience of Central and Eastern European countries in transition has shown the clear correlation between the pace of privatisation, on the one hand, and foreign investment inflow and improvement of living standards, on the other. Regarding the pace of privatization (transfer of assets and property to private or joint ownership) Belarus is lagging behind most of the other countries in developing its market economy.

The experience of Central and Eastern European countries in transition has shown the clear correlation between the pace of privatisation, on the one hand, and foreign investment inflow and improvement of living standards, on the other

Belarus has a different agenda with that regard from, for example, Russia, where the privatisation process was boosted with the major objective of solving internal political problems and establishing a broad base of owners in the country. The ultimate objective of privatisation in Belarus is enhancing and modernizing the country's industrial potential using the incentives of market competition. Other objectives of the privatisation process include: bringing fresh investments into the economy; tackling the common financial issues many companies are struggling with; and fiscal policy normalisation. As seen in Table 4.2.1 below, the pace of privatisation in Belarus has substantially slowed in recent years, primarily due to the policy adopted by the government regarding state ownership. The three major pillars of this policy are the following concepts:

1. Belarus should undertake a gradual and well-balanced transformation of state property;

2. the state should retain ownership in areas where it is efficient; and

3. by retaining ownership, the state minimizes social costs of transformations.

The adoption of a gradual, efficiency-oriented approach to privatisation was partially determined by the difficult experience of Russia's swift mass privatisation, particularly its negative social and economic impacts. On the other hand, privatisation is becoming increasingly important because of the rising costs of maintaining at least minimal levels of competitiveness of industrial companies. The problem of ageing and the need to modernise the manufacturing sector are soon to be a burning issue. Therefore, the most crucial immediate task is to compile a reasonable list of companies yet to be privatised to speed up the process.
The improvement of the regulatory framework of state property management and privatisation is another important area needing attention. It is desirable to provide investors, both local and international, with more opportunities to participate in the privatisation process by diversifying modes of privatisation, especially for small- and medium-sized enterprises lacking sufficient start-up funds.

The pace of privatisation in Belarus has substantially slowed in recent years. As of today, however, privatisation is becoming increasingly important for the country's future

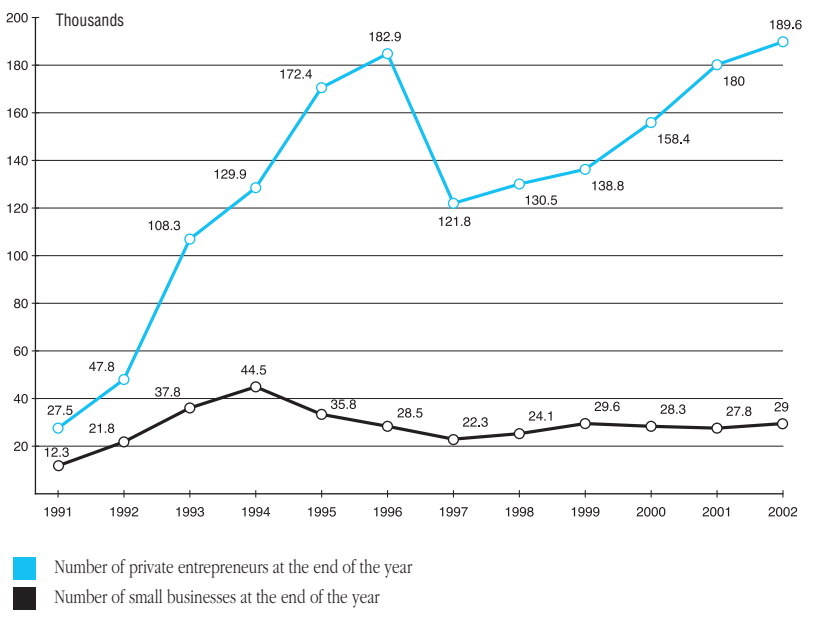
In Belarus, the voucher privatisation designed to provide large segments of the population with ownership appears to be lagging. Originally it was to be completed by July 1, 2002. However, it may be prolonged because voucher holders could not redeem their vouchers due to insufficient property available. Unused vouchers, with a face value of 3,300 Belarusian roubles each, can only be redeemed by the state, making acceleration of state property restructuring and privatisation even more necessary. Simple solutions such as an automated exchange procedure for trading individual privatisation vouchers for shares owned by the state would be very helpful.

Despite the considerable delay of privatisation compared to other countries, Belarus still has good prospects for privatising most of its state enterprises under the form of full or shared buy-out by strategic investors at reasonable prices. First, a large number of enterprises established to supply the USSR market have been able to keep their market share in the CIS. Secondly, transformation processes have helped enterprises to retain a core of skilled specialists capable of finding complex technological solutions. Thirdly, the changes in legal and institutional environment introduced recently provide to a great extent the necessary background for the normal functioning of private capital.

At the same time, industrial fixed assets rapidly continue to deteriorate and become obsolete because of a low renewal rate. Belarusian manufacturers face stiff competition from other countries on the markets where they have traditionally performed well. This negatively affects the quality of human capital at state-run enterprises. Therefore, now is the time to speed up privatisation.

Figure 4.2.1

Small business development in the Republic of Belarus from 1991 to 2002



Source: Ministry of Statistics and Analysis of Belarus; Ministry of Taxes and Duties of Belarus

The existence of a competitive private sector is indispensable for tackling the country's socio-economic development challenges. Other countries' experience proves that private business is the main engine of sustainable economic growth. This is the reason why all these countries put in place relevant institutional and financial conditions to promote and support this sector.

SMALL AND MEDIUM-SIZED BUSINESS

Belarus is facing an urgent problem of developing small- and medium-sized businesses. SMEs have an important economic role to play in helping to utilise human capital – a key element of national wealth. They improve the flexibility of the economy and its ability to quickly respond to ever-changing demand. SMEs help utilise resources that large enterprises cannot use efficiently and they intensify the innovation process and foster superior intellectual services. Finally, SMEs create a competitive environment and fill the market with a wide variety of domestic products, thereby helping to substitute local products for imports and attract more public savings for investment into the economy.

SME development does not mean breaking large enterprises into smaller ones. The size of a company depends on its business goals and objectives. Relevant experiences elsewhere in the world show that most of the world market is divided between large and super-large national and trans-national corporations competing with each other for new markets. Trying to compete with them is beyond the reach of any company unless it has a capitalisation of comparable size. But there are examples of very successful small and medium-size businesses that co-operate with large corporations or secure traditional niches for their type of business (bakeries, cafes, hotels, etc.) while also designing and providing innovative goods and services.

The social function of SMEs and their potential in Belarus in the near future deserves special attention. SMEs have an important role to play providing jobs for the unemployed. This is of particular importance now, when structural reform-related unemployment is likely to increase. Various estimates indicate that the current level of redundant employment in enterprises has reached 15 percent. Small and medium-sized businesses can absorb redundancies creating new jobs if proper conditions are in place.

SMEs also contribute to the formation of a middle-class — the major champion of social stability. The middle class is also interested in seeing market relationships deepen and become more democratic. For all intents and purposes, SME development contributes to the improvement of living standards and poverty reduction.

Despite the obvious social and economic benefits of private enterprise, it is confronted with tremendous difficulties in Belarus. There are about three small businesses per 1,000 people in the country, while in the EU countries the number is approximately 45.

SMEs account for 50-60 percent of GDP output in developed economies.

As of early 2003, there were 29,000 small businesses in Belarus (officially, national legal and statistical records do not apply the term "medium-sized business"), of which 44.4 percent are in trade and public catering, 20.8 percent in industry, 11.7 percent in construction, 5.9 percent in transport, and one percent in agriculture. The category of small businesses in Belarus also includes private entrepreneurs, numbering 189,600 at the end of 2002. Most of the small businesses (more than 54 percent) are established in Minsk, producing about half of all the products and services of this sector's total. At the moment, small economic entities are responsible for nearly seven percent of GDP and bring into state coffers over 12 percent of all tax revenues.

According to Figure 4.2.1, over the past decade small business has been developing without a clear-cut trend as a result of the changing institutional environment. A sharp decline in the number of small businesses and private entrepreneurs has stemmed from major deficiencies of legislation regulating their establishment and operations.

Given the tremendous potential of economic growth related to SMEs, the Socio-Economic Development Program for the Period 2001 – 2005 recognises them as the key to achieving the set targets and defines the primary ways to promote and support them. The 2002 Resolution of the Council of Ministers of Belarus No. 760 issued on July 11th adopts the Concept of State Support and Promotion of Small Business in Belarus for 2002–2005. The focus of the concept is "to make laws that would ensure the development of favourable conditions for small business development and remove legal, administrative and organisational barriers and limitations hampering their establishment, progress and functioning". It also seeks to provide small businesses with adequate access to financial resources and make it simpler to obtain a bank loan.

Although the adoption of these fundamental documents has improved the general attitude to entrepreneurship in the public mind, it has had little effect on the institutional framework. As a result, critical problems in this area still exist. The main factors hampering the development of SMEs are:

- changing and incomplete private enterprise development legislation;
- a high number and complexity of administrative barriers (e.g., registration, licensing, certification, business termination, etc.);
- substantial and numerous taxes, a sophisticated tax system, frequent changes in tax and fiscal accounting and large deductions for social support;
- frequent inspections by an array of controlling bodies;
- insufficient financial support for SMEs and barriers to business loans; and
- deficiencies in market infrastructure and low demand.

These problems are well-known in Belarus and are the subject of continuous talks between the government and organisations representing entrepreneurs. In an attempt to cope with these issues the Council of Ministers issued a Resolution No. 466 on April 8, 2003, creating an interdepartmental commission for the support and promotion of small businesses, comprising combined a representation of the state and the private sector. The purpose of the commission is to review normative acts and to draft and submit to the government proposals on SME support and development.

To make sure that barriers to SME development are systematically dealt with and ultimately removed, relevant legislative activities require a clearer sense of direction. It is necessary to rectify past mistakes and fill legislation gaps. Serving this very purpose is the July 14, 2003 Presidential Decree No. 17 "On Licensing of Individual Types of Activities" calling for a threefold reduction in the number of activities requiring a license and a twofold reduction in the number of government bodies authorised to issue licenses.

Despite the obvious social and economic benefits of developing small- and medium-sized businesses it is confronted with tremendous difficulties in Belarus

Belarus is exploring new possibilities and avenues for ensuring sustainable economic growth and attracting investment to the country. Along with momentum-building ownership reform and stronger support for small and medium-sized businesses, this problem has direct links to a number of other more general issues. The latter include: the formation and development of market-oriented financial institutions; the stock market; the restructuring of a budget system as the foundation for tax reform; expedition of bankruptcy procedures for inefficient owners as a basis for economic and financial recovery; the development and improvement of corporate management, the introduction of a copyright protection mechanism; agriculture and land ownership reform; and others.

This set of institutional problems indicates two major tendencies. On the one hand, Belarus is still at the beginning of economic reform. On the other hand, it has the capacity to speed up the pace of socio-economic development. The proper use of these resources, coupled with learning from the mistakes of other countries in transition, creates favourable conditions for faster structural changes with low social costs.

4.3. CHALLENGES ON THE INNOVATION DEVELOPMENT ROUTE

The internal consumption capacity of domestically produced goods in Belarus is about 50-60 percent of GDP. Since a large portion of products is sold on external markets (three times as much as in other countries), the competitiveness of domestic manufacture becomes particularly important for further development.

Only 4 percent of the technological processes used in Belarusian industry reach international standards, Seventy-nine percent are based on traditional tech-

nologies and 17 percent on primitive technologies, and most of them are more than 15 years old. The Register of High Technology Industries and Enterprises lists less than 90 entries. The country's paradox is that only five percent of all enterprises utilise significant scientific and technological capacities (in developed countries, this indicator is 5–6 times higher). As a result, the share of innovative high-tech products in the output structure is extremely small (less than three percent). In the course of the last half decade, the share of new industrial products has dropped to a mere 2.6 percent (1.5 times less than before), and the share of high-tech products in the export structure is only 4percent, which is 8 times less than in the USA and 3 times less than in Russia (compare with the USA – 33 percent, Japan – 26 percent, Denmark – 18 percent, Russia – 12 percent).

Only four percent of the technological processes used in Belarusian industry reach international standards

BELARUS: THE STATE OF THE NATIONAL INNOVATION SYSTEM

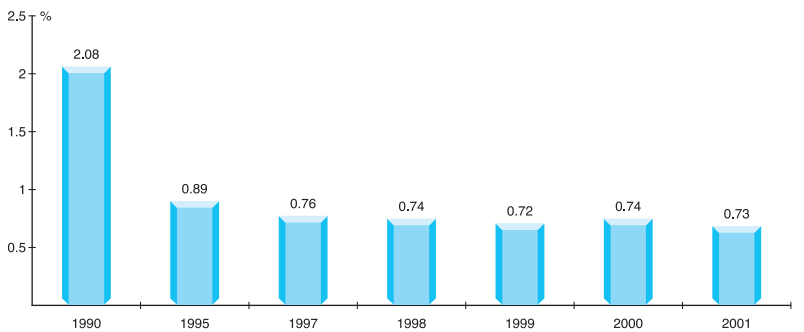
As negative trends became exacerbated, the industrial sector of the Belarusian economy plunged into a crisis that affected science in the most devastating way. Cuts in financing and research staff led to the collapse of the scientific equipment supply, falling demand for research products, and problems with international high-tech transfer. The science share of GDP – a marker of the "initial" condition for an innovative cycle – is dropping (1995 – 0.93 percent, 1996 – 0.87 percent, 1997 – 0.85 percent, 2001– 0.81 percent, 2002 – 0.73 percent), as are the investment activities of most companies. Research engineering carried out within the system of technical ministries and manufacturing companies has decreased over the past decade from 60 to 40 percent. The number of specialists engaged in research decreases every year, not only in absolute terms – more than three times versus 1990 and by 22 percent versus 1995 – but also relative to gross employment (Figure 4.3.1).

Social status and the average monthly salary of scientists and researchers are continually declining (cf. Figure 4.3.2), although Art. 38 of the Law of the Republic of Belarus "On Research Efforts" declared that "…beginning on January 1st, 1997, the average monthly salary of science and teaching staff shall gradually increase, so that by January 1st, 1998, it shall be at least 1.5 times greater than the average monthly salary in the industrial sector". In the 1950s and 1960s, science and research employees earned 3.5 times and teaching staff five times more than the average across the country. According to Russian experts, to activate the "intellectual" component of innovation development, the average monthly income in the field should stay above USD 200 for beginning researchers and engineers, and above USD 500 for science and research employees, providing that these people indeed have productive potential and ideas in addition to their formal credentials. These figures may be unattainable under the present economic circumstances, but doubling salaries and linking them to performance in the area of innovation should be feasible. This will also contribute to the promotion of scientists' prestige and motivate youth to become involved in new research endeavours.

The national patent system has registered a loss of interest on the part of foreign companies and individuals in innovation in Belarus. The latter means a loss of markets for new products and technologies the country will produce in the next 5–7 years.

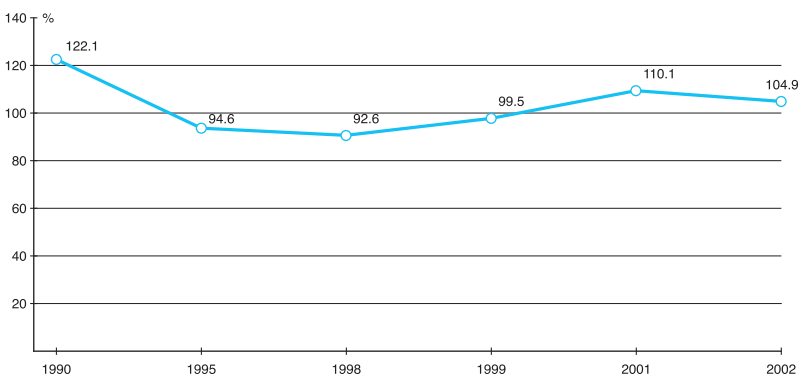
The industrial and social spheres do not have sufficient innovation resources and incentives. They focus on short-term production goals and, therefore, do not produce innovative products. Macroeconomic prerequisites for innovative processes, resting to a great extent in the hands of the state, directly determine company demand for research products. Even a superficial look will reveal the untoward condition of this area. Prices of new equipment grow much faster than their efficiency. It is unprofitable to modernise technologies because enterprises not using the latest achievements of science have lower costs. In Belarus, machines do not replace workers. On the contrary, the cheap labour force prevents the wider use of

Figure 4.3.1
Share of research workers to gross employment (as a percentage)



Sources: Science of Belarus. 1999. Collected Statistics/Belarusian Institute of System Analysis.–Minsk, 2000.
Science of Belarus 2001: Collected Statistics/Prepared by V.N. Tamashevich and others – Minsk: Committee on Science and Technology, Ministry of Statistics and Analysis. 2002.

Figure 4.3.2
Average monthly salary in science and research as percentage of average monthly salary in the industrial sector.



Source: Statistical Yearbook of the Republic of Belarus, 2002, Collected Statistics, Ministry of Statistics and Analysis of Belarus – Minsk., 2002.

advanced machinery; workers have come to replace worn-out equipment. The paradox is that the desire to improve production efficiency, i.e. to maximise profits and minimise costs, compels economic entities to replace highly effective automated labour with manual labour which seriously reduces productivity. The major features of Belarus production capacity are:

- high deterioration of fixed assets (the total for the national economy is 75.6 percent, for industry – more than 81 percent). As of early 2001, it stood at 65–75 percent (the threshold value for sustainable development is 40 percent and the security limit for this indicator is 50 percent);
- replacement of products with a higher level of technology (electronics, computers, telecommunications, robot-building, etc) by those at lower levels (electrical engineering, ferrous metal rolling, oil and chemical products, truck and tractor building, etc.);
- growing share of loss-making companies and continuous decline of profitability of Belarusian enterprises and organisations, from 15.2 percent in 1999 to 13.1 percent in 2000 and 8.2 percent in 2001 respectively).

The amount of funding flowing from the corporate sector of the Belarusian economy to research and development is depressingly low. This sector does not have enough resources and, as a result, displays a lack of motivation to finance intellectual efforts (Table 4.3.1).

A restructuring of the economy based on "selected state priorities around which small- and medium-sized businesses develop" can play a major role in that regard. By focusing its attention on several strategic sectors and privatising the others, the state will be able to mobilise resources needed for science and innovation development in general.

During the 1990s, problems related to innovation also emerged in connection with legal issues around intellectual property. There is evidence that some large and small companies used research and development products without the participation of those who had developed them (research organisations and individual designers) in profit-sharing schemes. This acted as an additional disincentive to developers, stifling their initiative to put their products into use or create new ones.

International and local experiences alike emphasise the need for economic incentives for science and innovation. In Belarus, however, sectoral organisations involved in research (except for those financed through the budget) have to pay much larger taxes and other duties on sales proceeds compared to industry and the economy in general. Newly developed products are taxed at a similar rate to traditional ones. The credit and financial system is ill-prepared to provide soft loans for innovative projects.

INNOVATION FACTORS OF ECONOMIC DEVELOPMENT IN BELARUS

Table 4.3.1

Sources of research costs coverage (in percent)

Indicators	in percent		
	1999	2000	2001
Internal research and development costs, total	100	100	100
Including:			
Own funds of research facilities	28.3	12.8	14.3
Budgetary funding	32.5	45.1	49.0
Extra-budgetary funding	4.0	6.9	6.9
Small- and medium-sized enterprise funding	7.8	11.0	10.0
Foreign donors	20.2	12.5	9.1
Other	7.2	11.7	10.7

Sources: Science Development in Belarus in 2001. (Analytical report) Committee on Science and Technology.– Minsk: Belarusian Institute of System Analysis, 2002. Science of Belarus: Collected Statistics/Prepared by V.N. Tamashevich and others – Minsk: Committee on Science and Technology, Ministry of Statistics and Analysis, 2002

At the centre of the national innovation system are such elements (factors) as the supply of new technologies, selection of the most effective ones and a temporary monopoly on the use of novelties which guarantees extra profits to their creators and first-users.

FACTOR A. WORLD INTELLECTUAL RESOURCES AVAILABLE TO THE NATIONAL INNOVATION SYSTEM

The amount of intellectual resources gives the scientific community reference points for further fundamental and applied research, and gives innovation businesses a baseline for further economic development and the competitive growth of the economy. Expertise (intellectual resources) comprises several components one of which is a "special intellectual buffer". This is comprised of the outputs of applied research such as patents, know-how, methodologies, algorithms, etc. that are owned by entities of the national economy.

Intellectual property as an institution is a key element of the innovation system that protects the interests of the copyright proprietor, innovative business,

In Belarus, machines do not replace workers. On the contrary, the cheap labour force prevents the wider use of advanced machinery

Table 4.3.2

Structure of investment in fixed assets by sector*

Indicators	as a percentage of the total			
	1990	1995	2000	2001
Total investment in fixed assets	100.0	100.0	100.0	100.0
including:				
Industry	24.4	29.7	30.2	31.8
Agriculture	28.8	8.5	6.8	4.9
Construction	3.2	1.7	1.4	1.8
Education	2.5	2.0	1.4	1.8
Science and research	1.1	0.3	0.3	0.1

* some sectors are missing in the table.
* Source: Statistical Yearbook of Belarus. Minsk, 2002.

Table 4.3.3
Small innovation business in Belarus

Indicators	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of employees at research companies	560	600	507	834	601	537	503	412	348
as a percentage of total number of small companies	4.9	4.2	3.4	4.2	2.8	2.2	1.9	1.6	1.4
Number of employees at research companies	7,544	6,944	6,700	3,400	6,200	6,600	5,680	3,160	2,782
as a percentage of total number of employees at small companies	3.7	3.0	3.8	2.0	2.7	2.4	1.7	1.1	1.0

Source: Science Development in Belarus in 2001. (Analytical report). Committee on Science and Technology at the Council of Ministers of Belarus. – Minsk: Belarusian Institute of System Analysis, 2002. – p. 75.

and of society in general. Industrialised countries are well aware of this and are said to own up to 97 percent of the world's patents at present.

Several indicators determine the current state of the national intellectual property market. The first indicator, known as the intellectual dependence ratio, is defined as the relationship between the number of patent applications for an invention filed by foreign as compared to domestic applicants. Since 1994, the relevant figures have been as follows: 1994 – 1.96; 1995 – 0.48; 1996 – 0.43; 1997 – 0.36; 1998 – 0.27; 1999 – 0.39; 2000 – 0.52 and 2001 – 0.41. It would seem that a steady decline in this indicator (until recently) is good for Belarus, as it shows an ever-expanding presence of local patent seekers on the internal market. However, invention statistics show that it only occurred, because the number of applications submitted by foreigners to the State Patent Committee of the Republic of Belarus (now the National Centre of Intellectual Property of the Science and Technology Committee under the Belarusian Council of Ministers) declined as well. A reversal of this trend, on the one hand, proves that western competitors are beginning to perceive the Belarusian intellectual sphere as a serious threat to their scientific and technological security. On the other hand, foreign investors might soon become interested in penetrating the Belarusian market to set up competitive production.

Science and research is the only sector of the national economy which has seen a five-fold reduction in capital investments over the past decade

The second indicator is the self-sufficiency ratio, i.e. the relationship of the number of registered domestic patent applications to the total of applications registered at the State Patent Committee. Figures depict the following picture of this indicator's dynamics: in 1994 – 0.34; 1995 – 0.68; 1996 – 0.70; 1997 – 0.73; 1998 – 0.79; 1999 – 0.72; 2000 – 0.66 and 2001 – 0.71. Correspondingly, the persistent tendency of falling invention patents applied for nationally cannot be construed as a good sign (1998 - 517; 1999 – 396; 2000 – 354 and 2001 – 374).

Finally, the invention ratio, derived from the number of registered national patent applications for an invention per 100,000 permanent residents of the country varies considerably: in 1994 – 1.32; 1995 – 4.15; 1996 – 2.80; 1997 – 3.46; 1998 – 5.07; 1999 – 3.94; 2000 – 3.54 and 2001 – 3.74. The observable variation of this ratio supports the assumption that the accumulation of the nation's intellectual resources is a recurring process.

Licence trade is a special segment of the intellectual property industry in Belarus. The state of affairs in this corroborates the trends typical of the economy in general. Out of 526 registered license agreements, nearly 87 percent are non-exclusive. This is one of the distinctive features of intellectual markets in countries with economies in transition, and is precisely the opposite in developed countries. The reason might lie in the underdevelopment of the market, or rather in the specific commercial interests of licensor and licensee. The former wishes to sell the rights for an idea more than once because there is no guarantee of the bona-fide fulfilment of obligations by licensee. The latter does not have enough money to buy exclusive rights. Exclusive licenses are mainly granted for products made in monopolised enterprises, as well as for goods with limited market demand. It should be noted that in 2001 this trend changed (in 2000 there were nine exclusive licenses, in 2001 – as many as 24), emphasising again the expanding possibilities of the Belarusian economy in terms of intellectual capacity capitalisation.

Factor B. Financial resources for innovation

Currently, science and technology are in deep recession as a result of the overall economic context. This context impedes innovation efforts, leaving research and development products unclaimed and hampering the flow of investment to science. This directly affects the renewal and maintenance of equipment used by science. Currently, the average annual renewal rate of fixed assets does not exceed 5 percent, three times lower than what modern-day practices recommend. Physical deterioration and obsolescence are above 60 percent. Furthermore, science and research is the only sector of the national economy which has seen a five-fold reduction in capital investments over the past decade. The share of science in the national "investment pie" has declined considerably (Table 4.3.2).

The traditional funding sources of science and

innovation in Belarus are mainly the state budget (presidential and various research programmes, financing of specific innovation projects, infrastructure development, training), special extra-budgetary funds (the Belarusian Innovation Fund, the Belarusian National Fundamental Research Fund, sectoral innovation funds, etc.), and enterprises' own funds.

Establishing sectoral innovation funds has proved to be ineffective because many ministries have small funds and they are definitely not enough to implement innovation policy in a particular sector. One of the possible ways to enhance the operational efficiency of these funds is to consolidate resources allocated to finance innovation projects, for instance, in the Belarusian Innovation Fund.

In the modern environment, international scientific and technological integration takes such forms as expanded involvement of foreign capital in funding research and development, co-operation between companies of different countries, co-operation between national research centres and foreign industrial companies, and co-operation between states. During the period 1994 – 1999, the share of foreign research and development funding has steadily risen in Belarus, exceeding a fifth of all research costs in 1999 (20.2 percent) while in 1997 it was 3.8 percent, and in 1998, 6.1 percent. The increase gives clear evidence that, in 1999 the technological potential of Belarus was "in-demand" by the world community. But ever since 2000, foreign investors have started dramatically losing interest in Belarusian research, a trend expressing itself in an almost twofold drop in the size of research and development funding from 12.5 percent in 2000 to a mere 9.1percent in 2001. This was possibly the result of the partial exhaustion of the Belarusian science capacity (to be more precise, the science capacity of the former USSR) and a low ranking in the list of attractive countries for investment (137th place). However, the share of foreign property in fixed assets in Belarus has tripled in 2002.

Unquestionably, foreign investments can open up brand new innovation opportunities for the Belarusian economy. If the country reduces foreign involvement, it will miss an extra chance to intensify innovative endeavours and achieve sustainable economic growth. Continual innovation monitoring is also necessary, as well as the search for solutions to such issues as effective capitalisation on intellectual property objects internally and intellectual migration. More attention has to be paid to efficient support of national research and innovation centres, "patronage" of fundamental science, selection of national innovation priorities and promotion of small innovation business.

FACTOR C. INNOVATIVE BUSINESSES

At the moment, small innovation businesses total 350 firms and companies in Belarus, a mere 1.4percent of total small business in the country (25,404 firms and companies in 2001). As seen from data in Table 4.3.3., the share of small innovation-oriented businesses and their employees showed a clear downward trend between 1993 and 2001. This leads to the discouraging conclusion that, despite a series of interventions - including in the legal field - to support small innovation business in Belarus, the innovation business is in recession.

At the present stage, Belarus should continue to establish a small innovation business mechanism. This will contribute to rising demand for intellectual resources among economic entities and help preserve intellectual capacity, thereby ensuring its production and an adequate supply of intellectual products. Therefore, linking innovation business to large industries is critical for its successful development.

Belarus' need for innovation in science and technology is urgent

FACTOR D. INNOVATION CLIMATE

Innovation climate comprises the set of necessary social, legal, economic, information and other institutions supporting both innovation activities and entities pursuing them, such as inventors, innovative business people, and investors. A typical framework for a favourable innovation climate includes state control techniques (tax policy, in particular), incorporation and privatisation mechanisms, and various organisational arrangements (incubators, technoparks, free economic zones, etc.).

Table 4.3.4

Share of taxes and duties in Sales proceeds in Belarus (as a percentage)

	as a percentage				
	1997	1998	1999	2000	2001
National economy, total	18.9	17.9	19.2	16.1	15.5
Industry	18.9	18.3	20.0	19.5	17.8
Science and research	23.9	23.2	24.1	23.5	22.5
Those without a Social Security Fund	14.9	13.7	16.8	14.9	14.0

Source: Science Development in Belarus in 2000. (Analytical report). Committee on Science and Technology at the Council of Ministers of Belarus. – Minsk: elarusian Institute of System Analysis, 2002.

Table 4.3.5

Foreign investment flow to Belarusian free economic zones (in thousands of USD)

Name of Free Economic Zone	Target for 2002	Amount of investment drawn in 2002.			
		Total	as a percentage of target	including (as a percentage)	
				direct	other**
"Brest"	21,000.0	6,605.0	31.5	45.6	54.4
"Vitebsk"	15,000.0	1,198.9	8.0	54.3	45.7
"Gomel-Raton"	21,000.0	3,315.9	15.8	58.2	41.8
"GrodnoInvest"	8,000.0	–	–	–	–
"Minsk"	21,000.0	17,645.0	84.0	60.3	39.7
"Mogilev"	14,000.0	–	–	–	–

Note: *excluding free economic zone resident–organisations accountable to the Ministry of Industries and Gomel Regional Executive Committee.
**other investments include: credits, loans, grants, financial leasing, commercial credits for over 180 days.
Source: Ministry of Statistics and Analysis of the Republic of Belarus. Minsk – 2003.

GOVERNMENT INTERVENTION

Creating an innovative climate is a key objective of the state. However, the current national innovation policy better fits the description of a large-scale campaign mounted by the government to finance individual initiatives and meet out benefits and preferences. The system's rules and procedures concerning the creation and implementation of innovations, as well as synergies, sometimes fall out of focus. Given that the government is unlikely to have at its disposal sufficient resources in the foreseeable future to ensure full-fledged research, two options may be worth following. On the one hand, the state should undertake clear innovation commitments (and stick to them!), and on the other hand it should regulate the field in such a way as to create equal incentives and conditions for all economic entities concerned.

In Belarus, tax policy as it applies to science and innovation has practically remained unchanged over the last years. The level of taxation has remained higher for the science and research branch (with the exception of scientific organisations financed through the budget) vis-a-vis industry and the economy as a whole

The provision of tax relief to innovation (venture) business is a widespread global tool for stimulating innovation. In Belarus, tax policy as it applies to science and innovation has practically remained unchanged over the last years. The level of taxation has remained higher for the science and research branch (with the exception of scientific organisations financed through the budget) vis-a-vis industry and the economy as a whole (Table 4.3.4). The causes for this lie in the specificity of this type of activity. It is no secret that the price structure of research and development products has an objectively large share of salary and, as a result, there are large taxes charged on salaries.

In its relevant budget laws, every year the state preserves for science and research as many tax breaks and preferences as possible. However, this is the case only for sums of money earned from research and development that have been financed through national or local budgets. Only sectoral research facilities primarily financed from the innovation funds of respective sectors and the companies' own funds are not entitled to these tax benefits. No doubt, with this kind of stimulation policy, all the state does is ineffectively "restructure" the field of innovation, giving a boost to supply and exercising little influence on demand for intellectual products. With innovation facilities at plants having practically vanished, the country is running the risk of losing sectoral innovation centres which still enable enterprises to bring an innovative product to market.

ELEMENTS OF INNOVATION ENTERPRISE SUPPORT THE INFRASTRUCTURE

A system of supportive institutions plays a key role in innovation development. The experience of developed countries shows that innovation support infrastructure can have the following elements: specialised innovation enterprise support and service organisations, incubation centres and innovation business zones (territories). Until now, not a single innovation incubator has been created in Belarus, beyond the nine business incubators supported jointly by the UNDP and the government. These perform some of the functions of innovative business centres. On the other hand, there are two operational technology parks whose work can be better described as "trying to survive". As a result, these technoparks normally consolidate small smoothly-running enterprises, not necessarily based on the use of high technologies, and thus fail to fulfil their primary purpose of supporting high-tech business.

Belarus' need for innovation in science and technology is urgent. Free economic zones created in the country should operate in a similar way. There are currently six fully operational free economic zones in Belarus: "Minsk", "Brest", "Gomel–Raton", "Vitebsk", "Mogilev" and "GrodnoInvest". Given the size of the undertaking, problems related to their businesses are bound to occur. Looking at the analysis of residents operating within Belarusian free economic zones, it is impossible not to notice that a considerable portion of their products and services goes to the domestic market, and this indicator grew from 37.3 percent in 2000 to 40.4 percent in 2001. Considering the fact that residents commit themselves under contract to export on a mandatory basis up to 70-80 percent of the goods they produce, one can admit that the bulk of residents are in breach of their export commitments. Another problem is finding start-up capital since the full cost of establishing a free economic zone is the responsibility of the host country. More than 70 percent of the assets investors contribute to free economic zone entities are in-kind contributions. So far, free economic zones have not been able to properly execute the main goal for which they have been created, namely to attract foreign investment (Table 4.3.5).

EDUCATION AS A FACTOR OF INNOVATION DEVELOPMENT

Innovation activities are primarily the skills, expertise and ability of people to create and use new things. The common belief in developed countries is that their human capital makes up 70-80 percent of the national wealth, an indication of why education enjoys top priority. All of this indicates the increasing role of human capital as a factor determining the efficiency of all the subsystems of the innovation process and economic development as a whole.

Many admit that the present education system in the country (including vocational education) is less effective than it could be. For example, any education system's top task is to make a precise forecast of future socio-economic development trends and provide training in a way that addresses these trends. As written in the government's Concept of National Strategy of Socio-Economic Development of Belarus until 2020, the system must "…ensure advances of education, taking aim at the needs and values of future post-industrial civilisation". But as follows from Table 4.3.6, the Belarusian education system is not very good at "accumulating" the relevant human capital to build the economy based on post-industrial technolo-

gies, instead giving preference to traditional knowledge.

If this situation prevails in the future, structural distortions of the skilled labour market that have begun to take shape could be aggravated further. Large groups of people with higher education, whose skills are no longer demanded in the labour market, will clash with skill shortages in many progressive fields. But contrary to developed countries, Belarus will not be able to compensate for these shortages by quickly importing skilled labour for a variety of reasons (lack of money, nature of social environment, etc.).

Well-established linkages between workforce occupational properties and training and retraining systems designed to meet the needs of potential investors and employers have been disturbed in the early 90s and are still not re-established. No new institutional framework is in place to resume these relations based on market principles. Also lacking is a state system for building human capital directly in the areas of vocational activities. As a result, for the last three years there has been a gradual reduction of occupational training efforts in some of the key areas (Table 4.3.7).

The ability of the workforce to meet the requirements of potential investors is one of the factors contributing to the better investment environment of a given region or enterprise. If the gap between investors' needs for skills and the ability of the training system to timely meet those needs continues to exist, this will definitely have a negative impact on the investment flow. With shortcomings not dealt with, the training and retraining system as it exists in Belarus will hamper the development of industries, especially those making use of state-of-the-art technologies, and will hinder the progress of foreign investment attraction.

The training of managers for high-tech business, e.g. innovation business, incubators and technoparks, is a third component of the innovation structure's educational factor. At the moment, international organisations, such as TACIS, UNDP, UNIDO and several foreign foundations, primarily deliver this type of training. The state has still not backed this component of the infrastructure with support programmes, and no well-defined policy is being carried out in the country in this area.

Given the latest economic trends in the West, placing a key focus on human capital as the main factor of economic growth, it is now the view of many local economists and politicians that investing in human capital is central to a successful transformation process. It is basically true, but one has to consider one simple fact: the labour force turns into human capital only under the relevant institutional and macroeconomic conditions. This is exactly why the idea of developing human capital in order to emerge from a transformation crisis is to be understood and used only in combination with other measures of economic reform. The main idea of endogenous models of economic growth that concentrate on human capital is the systematic nature in which the economy functions: here every element is linked to another element, every factor influences the whole system, and, vice versa, the system influences its elements. The emergence of the notion "human capital" signifies quality substantive changes in such production factors as the labour force and in the nature of production itself. Labour force can only become human capital at the stage of late industrial and post-industrial reformation when economies are based on information technologies Moreover, risking the statement that, at the present stage, there is neither human nor intellectual capital in Belarus. An employee cannot convert his/her skills and expertise into a new source of income. This is the case both because technologically challenged enterprises are either making losses or operating on a paltry profit margin (capital is not reproduced as capital), and as a result of the running income policy, which often tends to pay the same or even more to a less-skilled worker. Intellectual

With regard to Belarus it is more appropriate to speak of human or intellectual potential (capacity) to be capitalised

Table 4.3.6

Specialists graduating from state universities by various technical specialisations

Specialisation	Number of people		
	1999	2000	2001
Power engineering	354	374	390
Metallurgy	126	213	210
Engineering industry	694	780	800
Automation and management	105	–	–
Electronics and microelectronics	140	148	145
Electronic apparatus building	251	196	233
Radio engineering	350	189	191
IT and computer engineering	396	481	538
Automatic production and CAM	387	465	535
Telecommunications	192	288	266
Chemical technology and biotechnology	309	270	341
Textile and light industry	164	252	286
Energy efficiency and industrial ecology	–	–	–
Intellectual systems	–	–	–
Agriculture and forestry	2,329	2,225	2,349
Military	976	938	1028

Source: Science of the Republic of Belarus. Statistical Yearbook. 2002.

Table 4.3.7

Vocational training at enterprises and organisations

Indicators	As a percentage of total workforce		
	2000	2001	2002
Occupational training	17.0	16.3	15.9
New skills and crafts training	3.0	3.4	3.2
Retraining	13.5	12.4	12.2
Training stints	0.4	0.5	0.5

Source: Ministry of Statistics and Analysis of the Republic of Belarus

Table 4.4.1

Number of political parties, trade unions and other organisations as of January 1, 2003

Total	1,034
Including:	
Political parties	18
Trade unions	38
National public associations	25
Youth associations - total	58
Including	
Children's organisations	14
Women's NGOs	17
Environmental, historical and cultural NGOs	36
Sports associations	145
Artistic unions	19
Educational, cultural and recreational NGOs	192
Scientific and technological NGOs	91
Charity organisations	144
Associations of disabled war veterans and workers	87
NGO unions	14
Other associations	150

Source: Ministry of Justice of the Republic of Belarus

The consequences of nationalisation or socialisation of civil society during Soviet times, i.e. openly paternalistic attitudes, and firm social guarantees delivered by the state, have impeded the development of civil

resources cannot be transformed into capital for basically the same reasons, but also because capitalisation of production is non-present. Therefore, with regard to Belarus it is more appropriate to speak of human or intellectual potential (capacity) to be capitalised. To make this happen, a set of complex reforms, institutional and other, is necessary.

4.4. Civil society as a prerequisite for successful reforms

An essential prerequisite for successful implementation of efficient economic and social reforms is the establishment of a civil society. The consequences of nationalisation or socialisation of civil society during Soviet times, i.e. openly paternalistic attitudes, and firm social guarantees delivered by the state, have impeded the development of civil society in Belarus. Yet, there has been obvious progress in the indicators of civil society. Table 4.4.1 below shows the number of political parties, trade unions and other organisations as of January 1, 2003.

Various sociological surveys indicate that political parties enjoy the trust of about five-seven percent of the Belarusian population while 15–17 percent of Belarusians have confidence in trade unions and other organisations.

At present, Belarus has 18 political parties, but there is still no developed multiparty system. The level of public trust and the choice of parties seems to be related to the age of Belarusians. The two extremes, the under 20 and over 60 age groups, represent the highest indicators of trust. The young tend to support "right" parties, while the elderly, in contrast, are much more "leftist".

A number of interrelated factors predetermine the low level of public trust in political parties. First, the existing Belarusian parties – rather small and closed groups of people with similar programme agendas and slogans – have failed to develop and realise a practical action plan for attaining programme objectives. Second, when the political situation called for the consolidation and enlargement of political parties, they became more fragmented instead. Third, the political profile of Belarusian parties includes well-defined right and left wings and an absence of any noteworthy centrist party. In fact, at present the government of Belarus, represented by the President and the administrative hierarchy, plays the centrist role.

Also, people's deputies are not elected on a party ticket, and they have limited access to electronic mass media, etc.

Finally, many opposition parties have boycotted elections of governmental bodies at various levels for a long time. Recently, the majority of political parties realised the futility of the boycott approach, and nominated their candidates for presidential and local government elections. Thus, local councils received 257 representatives from opposition parties, which is equivalent to 1.1 percent of the total number of deputies.

Of course, the gradual reform of the economy will expedite the structural solidification of diverse social forces in pursuit of their own specific interests. This would lay a foundation for the organisational regrouping of those forces into political parties and could possibly lead to a developed party system. It is quite likely that some parties might develop independently from any existing party structures. The speed of this process would largely depend on the ability of political actors to embrace democratic election procedures and reach out to every segment of the population.

Which political trends are applicable for Belarus? The results of sociological surveys provide a partial answer to this question. During one of the opinion polls, residents of Minsk had to describe the extent of their support for various ideologies: socialist (as interpreted by the majority of contemporary communist

Table 4.4.2

Ideological profile of Minsk residents (as a percentage of the total number of respondents)

Ideologies	Level of support			
	Full	Partial	None	No answer/unsure
Socialist	14.6	32.3	32.3	20.8
Social-democratic	16.6	49.5	13.0	20.9
Conservative	7.1	34.8	30.7	27.4
Liberal	29.5	32.9	16.1	21.5

Source: Opinion poll for Minsk conducted by the Minsk Research Institute of Social, Economic and Political Problems in November 2002 among 1,172 persons.

leaders), social-democratic, liberal, and conservative. The questionnaire contained a brief description of each of the above ideologies. Table 4.4.2 summarises the feedback.

As seen from the table, socialist ideology enjoys the support of 46.9 percent of respondents, including 14.6 percent claiming full support and 32.3 percent partial sympathisers; social-democratic ideology received 66.1 percent (16.6 percent full and 49.5 percent partial supporters respectively); liberal received 62.4 percent (29.5 percent and 32.9 percent); and conservative enjoyed 41.9 percent (7.1 percent and 34.8 percent).

The survey also confirmed that senior citizens primarily champion the socialist ideology, while businessmen, white-collar workers, students and the younger generation in general clearly opt for social-democratic and liberal ideas. Despite the somewhat mosaic structure of public opinion, which, for instance, manages to combine social-democratic and liberal ideas, these political trends are still obviously most applicable for Belarus. The current compatibility of liberal and social-democratic approaches stems from the preference of similarities of the two ideologies over their differences.

The relatively unpopular conservative ideology is most likely the result of its focus on preservation of traditions, while the public currently gravitates towards change.

Against a background of public mistrust in political parties, it might be interesting to know the current influence of non-governmental organisations and movements

Sociological surveys indicate that trade unions and other nongovernmental organisations have a somewhat greater effect on people than political parties. When asked whether trade unions protect their rights, over 50 percent of respondents recognised at least some degree of activity in that area. And to the question of whether NGOs' activities are of any public benefit, every third person gave an affirmative answer while every fifth responded negatively. Remarkably, young people have the most optimistic attitude towards the role of NGOs. There is a growing consensus on the need to develop the third sector.

Associations of businessmen and industrialists should play a special role in reforming the national economy. Their primary areas of influence include:

- drafting of legislation;
- preparation of forecasts;
- formulation of socio-economic development;
- support for small and medium-sized business development;
- design of privatisation mechanisms; and
- procedures for the restructuring of privatised and state enterprises.

As for other NGOs, social security and civil rights organisations are in great demand as well as NGOs devoted to youth and environmental issues (Table 4.4.3).

Ways to facilitate dialogue between the state and NGOs include the establishment of NGO steering councils, enhanced involvement of NGOs in policy-making relating to their specific areas of activity, and the introduction of a contractual relationship between the government and NGOs on a variety of social issues. Mechanisms such as municipal contracts, social grants, and local community development funds seem to have bright prospects in Belarus.

For a better understanding of the future of NGOs in the country, it is necessary to realise that the incipient NGO structures of Belarus exist as small, informal groups based, as a rule, on common professional interests. Further formation of associations and organisations is useful for the promotion of individuals' specific interests.

An essential ingredient in the formation of civil society is the devolution of central authority to local communities, and the development of local self-governance. In Belarus, local governments are not properly empowered and do not possess the sufficient financial resources for efficient handling of regional and local problems.

The incipient NGO structures of Belarus exist as small, informal groups based, as a rule, on common professional interests

Decisions taken by local governments within their purview should enjoy a legally binding status subject to the full support and protection of the state. It is important to bolster the financial and economic foundations of local governments and build their financial capacity. Local administrations should also be empowered to establish finance and credit organisations and banks.

The implementation of democratic forms and procedures during the formation of local representative and executive authorities and territorial self-governance should become an essential component of local capacity building. The main priority here is the instalment of a secret ballot mechanism for popular election of executive authorities, starting from the lower levels, including rural areas, villages, towns (subordinate to district councils), and district executive committees (local administrations), etc.

In the future, territorial units should have their own regulatory statutes developed with due consideration of local specifics. These statutes should be approved

Table 4.4.3

Publicly prioritised areas NGOs should address (as a percentage of the total number of respondents)

Social security	47
Civil rights	34
Environment	27
Youth	27
Education	7
Culture	7
Gender issues	5
Ethnic minorities	3

Source: The sociological survey conducted by the NGO "Logos" on 500 randomly selected residents of Brest Region, representing basic age groups and vocational skills.

Civil society development requires a goal-oriented and consistent state policy designed to foster the interplay between the state and the developing civil society

by local Deputy Councils or through local referendums. The first example of such a statute is the Statute of Minsk. The statute of a local territorial unit is to become its main law, superseding all other acts put forward by local governments.

The development of local self-governing bodies, such as borough councils and committees, communities and street and rural committees, should receive special attention. Self-governance capacity building in public life is attainable through various social initiatives, including referendums, town meetings, public assessment, lawmaking initiatives, etc.

As a whole, civil society development requires a goal-oriented and consistent state policy designed to create the necessary legal, political, economic and other institutional conditions, and, most importantly, to foster the interplay between the state and the developing civil society.

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Note on Statistics in the National Human Development Report of the Republic of Belarus – 2003

Since 1995, Belarus has been regularly publishing a National Human Development Report. The Report can be symbolically divided into two parts: the thematic analysis and the statistical annex containing dynamics of detailed chronological data. Statistical figures reflect the current tendencies and the level of human development in the country vis-a-vis economic development indicators.

The analytical section of the Report is in fact an interpretation of the statistical data. The compilation of statistical information for the HDR was the result of constructive teamwork from many experts representing various institutions and organisations of Belarus, including, of course, the Ministry of Statistics and Analysis. In addition, an invaluable contribution in terms of data supplied was made by the specialists of the National Bank, Ministry of Finance, Ministry of Natural Resources and Environmental Protection, Ministry of Communications, Ministry of Health, Ministry of Internal Affairs, and other departments and ministries of the country. The collaborative effort enabled citation of the latest figures in the area of human development in Belarus.

TABLES OF INDICATORS

The statistical requirements of the United Nations Development Programme underwent major adjustments in 2003 to place a sharper and more exacting focus on the whole range of indicators within the human development context. This was a result of the Millennium Development Goals put forward at the UN Millennium Summit in 2000.

The Report's statistical data allows the analysis and conclusions about how the changing economic indicators contributed to the improvement of living conditions, reduction of poverty and unemployment, social security (especially of senior citizens and children), health care development, access to quality education, and status of the environment.

DATA USED IN HDI CALCULATIONS

Ever since 1990, global human development reports published annually by the United Nations Development Programme have used an integrated indicator, the "Human Development Index" (HDI), as a means of measurement. The recent reports, however, have used a more advanced calculation mechanism for HDI, now referred to as the "Human Capacity Development Index".

The HDI indicator is a universally recognised collation indicator for assessing the socio-economic situation in individual countries and the whole world.

HDI assesses three basic indicators:

- life expectancy;
- adult literacy rate, and the education coverage ratio for all ages of children and youth;
- income.

Health improvement is regarded as an important factor of the physical development and better work efficiency of the population, enhancing possibilities for the production of goods and services, acquisition of knowledge, etc. Thus, the life expectancy indicator was selected as an essential element reflecting public health achievements.

The level of personal and public education largely influences the quality of human capital – the main factor of society's enrichment – and contributes to labour efficiency. The level of education reflects the accumulation of educational, labour, scientific, intellectual and creative potential. It also constitutes the social fund of knowledge and skills – the "spiritual wealth" of the society. This important quality is propagated from generation to generation, and is instrumental for human development, as well as for more efficient production as a whole.

Public incomes are measured using the macroeconomic indicator "GDP per capita in US dollars as per the purchasing power parity (PPP)".

The National Report-2003 contains annual HDI indicators for the period of 1995-2002, standardised within their original calculation parameters of 2000 (i.e. in accordance with the methodology applied for the Global Human Development Report of 2002).

LIFE EXPECTANCY AT BIRTH

The Report contains information on life expectancy at birth taken directly from the data base of the Ministry of Statistics and Analysis of the Republic of Belarus. This indicator is annually recalculated according to the age-specific tables of the death rate. The mortality tables rely heavily on the medical death certificates duly confirmed by the civilian registry offices. The 2002 data is tentative and subject to possible adjustments in subsequent publications.

ADULT LITERACY RATE

The literacy rate figures for adults (i.e. for people of 15 years and over) are based on the population censuses

Table

Purchasing power parity data for the year of 1996 for selected countries

Countries	GDP per capita (USD)	PPP (national currency units per 1USD)	Ratio of PPP to the exchange rate
Belarus	5,166	3462	0.26
Russia	6,744	2208	0.43
Ukraine	3,326	0.48	0.26
Kazakhstan	4,328	19.40	0.28
Moldova	2,100	1.013	0.22
Lithuania	5,750	1.481	0.37
Latvia	5,053	0.2248	0.41
Estonia	6,647	5.373	0.45
Austria	22,135	13.58	1.28
USA	27,840	1.0	1.0

Source: Statistical Yearbook of Republic of Belarus. Minsk, 2003.

of 1989 and 1999, and are indicative of the total share of literate population in this particular age group.

GROSS ENROLMENT RATIO FOR THREE LEVELS OF EDUCATION (PRIMARY, SECONDARY AND HIGH SCHOOLS; VOCATIONAL AND TECHNICAL SCHOOLS; HIGHER EDUCATION ESTABLISHMENTS)

The gross enrolment indicators contained in the Report are based on the age-specific demographic statistical data and the statistical accounts of all state and non-state education establishments at the beginning of an academic year. The gross coefficient represents the ratio of the total number of children and youth enrolled by all levels of educational establishments to the actual size of a given age group entitled to a certain level of education. This consolidated indicator for all levels of education can be called "Education coverage of children and youth within the age of 6-24".

GDP PER CAPITA (AS PER THE PURCHASING POWER PARITY, IN USD)

The GDP per capita information used for HDI calculation is based on the application of purchasing power parity. The purchasing power parity, unlike a bank's exchange rate, takes into account the varying price levels of different countries. The baseline year for HDI calculation is the purchasing power parity of the national currency (the Belarusian rouble in relation to the US dollar) in 1996. In order to calculate the Human Development Index for 1995, 1997–2002, indicators for 1996 were extrapolated using price deflators that allowed the necessary allowances for the changing GDP in Belarus and the United States.

International collations are of special importance for the countries with economies in transition, because, as a rule, it is these countries that have the greatest difference between the exchange rate and the purchasing power parity. At present, the purchasing power parity has been calculated for 118 states.

The Table lists purchasing power parity data for the year of 1996 for selected countries.

The Republic of Belarus, as an independent state, has already participated in three rounds of the international collations of 1993, 1996 and 2000.

The calculations for the 2000 collation round have been finalised, but not yet published.

FIXED INDICATORS AND HDI CALCULATION METHODOLOGY

1. Life expectancy index,
fixed indicators (set by UNDP):
maximum – 85 years
minimum – 25 years

$$\text{Dimension index: } \frac{\text{actual value - min}}{\text{max - min}}.$$

2. Adult literacy rate, adult (15 years and over)
maximum – 100%
minimum – 0%

$$\text{Dimension index: } \frac{\text{actual value - min}}{\text{max - min}}.$$

3. Index of the age-specific education enrolment (for ages of 6-24) – (education coverage, percantage)
maximum – 100%
minimum – 0%

$$\text{Dimension index: } \frac{\text{actual value - min}}{\text{max - min}}.$$

4. Consolidated index of acquired level of education

$$\text{Education index} = \frac{2}{3}\ \text{adult literacy index} + \frac{1}{3}\ \text{gross enrolment index}$$

5. GDP per capita index (as per PPP, in USD)
maximum – 40,000 USD as per PPP
minimum – 100 USD as per PPP

$$\text{GDP index: } \frac{\log_{10}(\text{actual value}) - \log_{10}(\text{min})}{\log_{10}(\text{max}) - \log_{10}(\text{min})}.$$

6. Human Development Index (HDI)

$$HDI = \frac{1}{3}\ \text{live expectancy index} +$$

$$+ \frac{1}{3}\ \text{education index} + \frac{1}{3}\ \text{GDP index}$$

Despite definite progress in improving the system of indicators for collection and collation of human development information, data gaps still impair the

accurate calculation of some of the indicators. Blank boxes in the tables of the Global and the National Report testify to the fact.

Obviously, the UNDP, UNFPA, UNESCO, WHO, ILO, and other international agencies still have a lot to do to build national capacities in the field of statistics, as well as to foster constructive dialogue between national statistical agencies and the statistical departments of the above-mentioned and other international organisations.

Tables of Human Development Indicators

Table 1

Production: gross domestic product

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
GDP per capita, national currency, thousands rubles	4.2	11,909.4	18,882.6	36,257.2	69,714.4	30,1544.6	912.9	1,722.4	2,571.2
at current prices	18,210.0	11,909.4	12,281.3	13,742.1	14,965.5	15,524.0	1,6474.7	17,314.9	18,215.3
at constant prices of 1996 US$ purchasing power parity (PPP)*	…	5,047	5,454	6,219	6,856	7,225	7,544	8,112	8,790

*This indicator is calculated on comparative basis with the year 1996, including GDP growth rate and US $ devaluation rate
In table 1 and the following tables the price indexes for 2000 are calculated on the basis of denomination (1:1000); statistical data for 2002 in many cases could be further slightly adjusted.

Table 2

Inflation, debt and foreign aid

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Inflation (% change in consumer prices)*	-	344.0	139.3	163.1	281.7	351.2	207.5	146.1	134.8
Budget deficit (% of GDP)	2.3	-2.7	-1.9	-2.2	-1.4	-2.9	-0.6	-1.6	-0.2
Balance of payments deficit, as % of GDP**	…	-0.1	-1.5	0.5	-2.1	0.2	1.0	0.0	0.7
Absolute volume of external debt, millions US dollars	...	2,138.2	1,908.4	2,146.3	2,369.5	2,224.7	2,122.5	2,447.0	3,078.2
External public and private debt service, % exports***	…	40.6	28.5	27.4	33.4	34.8	27.7	29.0	33.1

*end-of-the-year data.
**Calculated on the basis of the average chronological rate of the Belarusian ruble.
***Calculated on the basis of proportion of external debt and export of goods and services.

Table 3

Public revenue and expenditure

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Public revenue per capita (national currency), in thousands of rubles	1.5	3,479.4	4,987.3	11,157.6	23,787.0	105,120.6	317.9	576.4	870.2
% of GDP	35.3	29.2	26.4	30.7	34.1	34.9	34.8	33.5	33.8
Public consumption expenditure per capita (national currency), in thousands of rubles	1.0	2,447.4	3,880.7	7,368.2	13,848.5	58,812.3	177.8	371.2	543.9
% of GDP	23.9	20.5	20.6	20.3	19.9	19.5	19.5	21.6	21.2
Public expenditure on total social objectives* per capita (national currency), in thousands of rubles	0.4	1,628.5	2,601.5	5,094.8	9,425.8	39,499.2	118.6	235.8	365.2
% of GDP	10.3	13.7	13.8	14.1	13.5	13.1	13.0	13.7	14.2
Public expenditure on health and physical culture per capita (national currency), in thousands of rubles	0.1	580.1	950.5	1,850.5	3,449.5	15,031.2	45.5	87.5	128.0
% of GDP	2.5	4.9	5.0	5.1	4.9	5.0	5.0	5.1	5.0
of which public expenditure on health per capita (national currency), in thousands of rubles	…	…	…	…	…	…	44.8	85.9	125.4
% of GDP	…	…	…	…	…	…	4.9	5.0	4.9
Public expenditure on education per student (national currency)	…	…	…	…	…	…	252.6	479.5	674.9
Expenditures of the Fund of Social Support Pensions (per recipient, national currency, in thousands of rubles									
Lump sum payments	…	298.6	502.3	898.6	1,731.9	7,038.8	23.9	52.5	74.7
one-time allowances	…	120.8	300.4	1,174.0	1,978.8	8,313.5	27.5	55.2	100.2
Funeral payments	…	425.9	1,009.3	1,598.8	2,797.4	10,218.3	53.0	118.1	189.1
Monthly payments	…	46.1	92.7	198.7	457.8	2,033.0	5.6	11.6	26.5
Average monthly unemployment allowances	…	91.3	136.1	188.5	347.2	1,149.5	3.2	7.2	15.9

*Health, education, religious, cultural and community activities, housing, social security (transfers).

Table 4

Economic activity by gender

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Population at working age, thousands of persons	5,691.8	5,665.0	5,672.6	5,685.5	5,707.2	5,752.1	5,809.3	5,872.4	5,918.0
of which men, thousands of persons	2,940.2	2,928.4	2,933.0	2,936.5	2,939.6	2,949.0	2,966.9	2,986.6	3,004.3
of which women, thousands of persons	2,751.6	2,736.6	2,739.6	2,749.0	2,767.6	2,803.1	2,842.4	2,885.8	2,913.7
Economically active population, thousands of persons	5,150.8	4,524.2	4,537.0	4,527.9	4,527.8	4,542.0	4,537.0	4,519.5	4,500.3
of which men, thousands of persons	2,478.7	2,147.5	2,193.1	2,184.8	2,183.9	2,163.2	2,151.5	2,126.8	2,103.8
of which women, thousands of persons	2,672.1	2,376.7	2,343.9	2,343.1	2,343.9	2,378.8	2,385.5	2,392.7	2,396.5
Men Economically active as % of men population aged 16-59	…	73.3	74.7	74.4	74.2	73.1	72.3	71.0	69.7
All employed (including self-employed), thousands	…	2,105.7	2,128.0	2,128.6	2,146.5	2,127.8	2,113.9	2,085.0	2,056.9
Unemployed*, as registered in state-run Employment Service, thousands	…	41.8	65.1	56.2	37.4	35.4	37.6	41.8	46.9
Women Economically active as % of women population aged 16-54	…	86.8	85.4	85.0	84.2	84.3	83.3	82.5	82.0
All employed (including self-employed), thousands	…	2,303.9	2,236.8	2,241.3	2,270.1	2,314.2	2,327.1	2,332.4	2,323.9
Unemployed*, as registered in state-run Employment Service, thousands	…	72.8	107.1	101.8	73.8	64.6	58.4	60.3	72.6
Women's equality in employment									
Women in wage employment in the non-agricultural sector (MDG)**	…	56.2	56.4	56.1	55.6	55.4	55.9	56.0	55.9
Female administrators and managers, %***	…	43.5	44.6	45.5	45.5	46.0	46.9	47.4	47.8
Female professional and technical workers****	…	48.2	48.3	47.9	47.3	46.8	47.1	47.1	46.9
Seats in parliament held by women (% of all seats) (MDG)	4.0	4.0	14.0	14.0	13.6	13.4	13.5	18.4	20.2

* Unemployed registered in the state–run Employment Service are able–bodied individuals of working age (women under 55, men under 60), for whom Belarus is a permanent place of residence, who do not have a job, are not private entrepreneurs, not students of day–time educational establishments, or not in military service and registered in the state–run Employment Service.
**As % of all wage earners in the non–agricultural sector, including administrators and managers, professional and technical workers.
***As % of all administrators and managers.
****As % of all professional and technical workers in non–agricultural sector.
All employment and unemployment data is the average annual data.

Table 5

Net annual wages and net earnings per month, at constant prices, by gender

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Men Average wage, in December, thousands of rubles	…	1,139.0	1,782.1	4,176.1	9,749.1	43,513.1	97.2	181.9	245.8
Average wage in non-agricultural employment, in December, thousands of rubles	…	1,285.2	1,784.6	4,239.0	9,848.1	44,034.7	109.5	204.0	276.8
Average wage in agricultural employment, in December, thousands of rubles.	…	741.1	1,735.4	2,727.0	7,109.4	29,765.7	54.3	101.0	124.0
Women Average wage, in December, thousands of rubles	…	900.4	1,442.8	3,113.5	7,793.9	32,699.3	78.7	150.4	198.8
Average wage in non-agricultural employment, in December, thousands of rubles	…	943.3	1441.7	3,116.3	7,790.6	32,709.1	82.6	158.1	208.9
Average wage in agricultural employment, in December, thousands of rubles	…	659.2	1,537.3	2,847.8	8,120.1	31,787.0	49.7	90.7	114.2

Table 6

Distribution of net disposable household income, as in % for different quintile groups

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
1st quintile group	…	9.6	9.9	9.8	9.2	9.3	9.3	9.1	9.3
2nd quintile group	…	13.9	14.2	14.1	13.4	13.7	13.7	13.5	13.7
3rd quintile group	…	17.6	17.6	17.6	17.0	17.5	17.5	17.3	17.4
4th quintile group	…	22.5	22.1	22.2	22.1	22.5	22.5	22.5	22.3
5th quintile group	…	36.4	36.2	36.4	38.3	37.0	37.0	37.6	37.3
Total	…	100	100	100	100	100	100	100	100
Median, in thousands of rubles	…	476.4	743.3	1,331.6	2,614.0	11,514.8	33.2	64.6	101.1
Ratio of upper to lower quintile	…	3.8	3.7	3.7	4.2	4.0	4.0	4.1	4.0
Share of poorest quintile in national consumption (MDG)	…	9.6	9.9	9.8	9.2	9.3	9.3	9.1	9.3
Gini index		0.261	0.254	0.258	0.283	0.269	0.270	0.278	0.272

Table 7

Poverty

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Minimum subsistence budget, thousands of rubles		424.1	659.2	1,101.1	2,159.6	11,041.5	30.1*	50.0	79.0
% of persons with the income two times lower than the minimum subsistence budget, as % of total population	...	3.2	3.1	2.3	2.9	5.7	4.7	2.4	2.5
Poverty depth ratio	...	26.7	25.9	20.1	22.1	34.9	28.8	17.5	17.9
Poverty acuteness ratio	...	9.6	9.2	6.9	7.9	13.5	10.8	6.3	6.4
Population ratio with the income lower than the minimum subsistence budget, as % of total population	...	38.4	38.6	32.1	33.0	46.7	41.9	28.9	30.5
Persons in relative poverty (below 60 % of national median income), as % of total population	...	14.1	12.4	12.2	13.1	16.7	13.3	15.2	13.0
Average expenditure on food as % of total consumption expenditure	...	61.6	58.0	57.6	56.7	59.5	59.6	56.1	52.8

* On the basis of denomination (1:1000).

Table 8

Demographic background

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Population*, in thousands of persons	10,188.9	10,210.4	10,177.3	10,141.9	10,093.0	10,045.2	10,019.5	9,990.4	9,950.9
% women	5,411. 4	5,430.8	5,410.0	5,387.3	5,357.1	5,327.6	5,316.3	5,302.7	5,284.5
% men	4,777.5	4,779.6	4,767.3	4,754.6	4,735.9	4,717.6	4,703.2	4,687.7	4,666.4
% urban	53.1	53.2	53.2	53.1	53.1	53.0	53.1	53.1	53.1
% rural	46.9	46.8	46.8	46.9	46.9	47.0	46.9	46.9	46.9
% under 15	66.1	67.9	68.1	68.4	68.8	69.3	69.7	70.2	70.7
% 65 and over	33.9	32.1	31.9	31.6	31.2	30.7	30.3	29.8	29.3
% over the pension age	23.1	22.1	21.6	21.0	20.4	19.5	18.9	18.3	17.5
% men of 60 and over	10.5	12.2	12.7	12.9	13.2	13.3	13.3	13.5	13.8
% women of 55 and over	19.6	21.0	21.2	21.4	21.5	21.5	21.4	21.3	21.2
Total fertility rate	28.2	29.3	29.5	29.9	30.5	31.3	31.6	32.0	32.1
Natural increase per 1,000 population	1,913	1,406	1,335	1,250	1,300	1,308	1,310	1,273	1,222
Total increase per 1,000 population	3.2	-3.2	-3.7	-4.6	-4.4	-4.9	-4.1	-4.9	-5.9
Dependency ratio**	80.2	79.4	78.4	76.8	72.5	72.5	70.1	68.1	65.9
Refugees and internally displaced persons***	80.2	79.4	78.4	76.8	79	190	200	130	57

*For definitions, see UN Statistical Commission Recommendations for 2000 population and housing censuses in the ECE region, 1998, para.83, p.21
** Persons aged under 15 and men of 60+, women of 55+ as percent of the working age brackets 16–59 for men and 16–54 for women.
*** The implementation of the Law of the Republic of Belarus «On Refugees», adopted on February 22, 1995, started in Belarus in 1998.

Table 9

Nutrition

Indicators	1990	1995	1996	1997	1998	1999	2000	2001	2002
Average supply of calories per day/capita	...	2,803	2,865	2,874	2,828	2,767	2,774	2,819	2,791
Average supply (per day/capita) of protein of animal origin, in grams	...	40	37	36.5	38.5	40	41	42	43
% pregnant women with iron deficiency anaemia	13.9	24.3	27.5	29.6	28.7	31.0	30.6	30.5	28.6
Exclusively breastfed children at 3 month of age (as % of total children at 1 year of age for the same year)	48.9*	48.3	50.1	61.3	65.9	67.3	68.3	76.3	78.8

*Two or more standard deviations below the median in a well-nourished and healthy model population.
**For 1991.

Table 10

Education

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Net enrolment rate*									
Boys Pre-primary	…	…	…	…	…	…	…	90.4	94.0
Basic primary (MDG)	…	94.5	94.7	96.8	96.4	97.6	91.8	90.0	104.4
Basic lower secondary (MDG)	…	95.5	94.8	94.0	92.9	93.1	93.9	96.0	88.6
Upper secondary general (MDG)	…	41.4	45.1	48.0	48.3	48.7	46.7	47.0	47.3
Upper vocational/technical (MDG)	…	28.0	25.6	26.7	26.8	25.5	25.7	25.3	24.1
Tertiary (MDG)	…	28.7	29.3	30.3	31.4	32.2	33.4	34.3	35.1
Girls Pre-primary	…	…	…	…	…	…	…	87.7	91.8
Basic primary (MDG)	…	92.9	93.3	96.0	95.6	96.8	91.2	89.1	103.6
Basic lower secondary	…	95.1	94.3	93.5	92.7	92.9	93.9	95.8	87.9
Upper secondary general (MDG)	…	58.2	61.5	64.8	66.1	65.6	62.8	62.7	62.8
Upper vocational/technical (MDG)	…	16.0	15.8	14.6	15.3	16.5	16.1	16.1	14.8
Tertiary (MDG)	…	34.1	35.6	38.4	41.9	43.4	45.1	47.4	49.1
Primary education and literacy Proportion of pupils starting grade 1 who reach grade 5									
Boys (MDG)	…	98.1	96.8	95.8	96.9	96.5	97.2	98.3	97.7
Girls (MDG)	…	98.6	96.8	96.4	96.4	97.8	98.6	98.9	98.5
Total (MDG)	…	98.4	96.8	96.1	96.6	97.2	97.9	98.6	98.1
Literacy rate of 15-24 years old per 1,000 of the respective gender and age**									
Men (MDG)	997					998			
Women (MDG)	998					998			
Total (MDG)	998					998			
Ratio of literate women to men of 15-24 years old**	100					100			
Ratio of girls to boys									
Primary (MDG)	…	98.3	98.5	99.2	99.2	99.2	99.3	99.0	99.2
Secondary (MDG)	…	141.6	136.4	135.0	136.9	134.7	134.5	133.4	132.8
Tertiary (MDG)	…	118.8	121.5	126.7	133.4	134.8	135.0	138.2	139.9

*Gross enrolment ratio for basic primary education for 6–9 years old, basic lower secondary – for 10–15 years old, upper secondary general – for 16–17 years old, upper vocational/technical – for 16–19 years old, tertiary – for 16–22 years old.
** Data of 1989 and 1999 census.

Table 11

Educational status of persons aged 25 years and more by gender*

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Men % with completed upper secondary	34.0					39.8			
% with completed tertiary	29.3					37.7			
Women % with completed secondary	24.1					28.3			
% with completed tertiary	30.1					41.8			

* Data of 1989 and 1999 censuses.

Table 12

Health services

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Per capita total expenditure on health, physical culture and social services (public and private) at 1995 constant prices, in thousands of rubles	701.7	732.2	748.7	868.3	928.9	1,031.2	1,153.2	1,209.3	1,217.3
Per capita health expenditure by private households at constant prices, in thousands of rubles	39*	94.5	119.3	227.5	521.4	2,286.2	7.6	19.4	32.8
Immunised children (as % of total registered children):									
of which immunised against tuberculosis	90.6	96.2	97.5	98.2	98.8	99.2	99.2	99.3	99.2
diphtheria	92.4	93.9	97.7	96.7	98.6	98.7	99.1	99.2	98.9
whooping cough	85.5	93.9	95.7	96.7	97.6	98.0	98.6	98.8	98.5
poliomyelitis	89.8	96.1	97.9	98.3	98.6	98.8	99.2	99.2	99.1
measles	96.2	92.8	96.4	97.6	98.0	98.4	98.2	98.9	99.0
epidemic parotitic	85.2	89.3	96.0	95.8	99.2	98.1	98.1	98.9	99.0
% of birth attended by skilled health personnel	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Intrauterine Device and Hormonal Contraceptive prevalence rate	27.8	33.5	34.1	33.1	34.6	31.1	31.0	31.9	34.2

*In rubles

Table 13

Selected mortality rates by gender

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Men/boys Expectation of life at birth, years	66.3	62.9	63.0	62.9	62.7	62.2	63.4	62.8	62.3
Death under 1 (infant mortality rate per 1,000 born alive)	14.1	15.6	14.2	14.4	13.3	13.5	10.7	10.2	8.6
Death under 5 per 1,000 born alive	17.4	19.1	17.9	17.6	16.8	17.3	13.8	13.0	12.2
Mortality from malignant neoplasm per 100,000 males	210.5	242.2	238.2	246.0	246.0	249.4	246.6	245.5	244.9
Mortality from cardiovascular conditions in men below 65 per 100,000 males	219.1	295.9	291.2	290.3	295.7	304.3	289.8	313.8	327.7
Mortality from tuberculosis per 100,000 males	7.1	11.2	11.5	12.5	12.8	15.8	13.3	15.4	17.6
Women/girls Expectation of life at birth, years	75.6	74.3	74.3	74.3	74.4	73.9	74.7	74.5	74.1
Death under 1 (infant mortality rate per 1,000 born alive)	10.0	10.9	10.7	10.4	9.1	9.3	7.9	8.0	6.9
Death under 5 per 1,000 born alive	12.8	13.8	13.6	12.9	11.6	12.1	10.7	10.0	9.4
Mortality from malignant neoplasm per 100,000 females	138.3	145.2	141.1	144.8	148.3	151.5	148.0	150.7	147.5
Mortality from cardiovascular conditions in women below 65 per 100,000 males	102.2	124.7	124.8	123.8	122.7	128.6	117.8	124.9	128.6
Mortality from tuberculosis per 100,000 females	1.9	2.1	1.5	1.3	1.8	2.5	1.9	2.1	2.4
Maternal mortality ratio per 100,000	22	14	22	26	28	20	21	14	18

Table 14

Morbidity

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Vaccine related diseases -diphtheria new cases, number	22	322	179	96	36	38	52	25	13
prevalence rate per 100,000	0.2	3.2	1.8	0.9	0.4	0.4	0.5	0.3	0.1
-tuberculosis new cases, number*	3,039	4,511	5,008	5,400	5,595	6,823	6,162	5,572	5,158
prevalence rate 100,000	29.8	44.3	49.3	53.4	55.6	68.0	61.6	55.9	52.0
proportion of cases cured	22.5	17.6	18.5	19.9	21.0	21.5	21.6	24.0	27.2
Other major diseases: -malaria (where applicable) new cases, number	13	16	5	11	14	11	20	12	14
prevalence rate per 100,000	0.1	0.2	0.05	0.1	0.1	0.1	0.2	0.1	0.1
-HIV/AIDS new cases, total	14	8	1,021	653	554	411	527	578	915
female	2	4	263	156	152	144	165	158	282
male	12	4	758	497	402	267	362	420	633
prevalence rate per 100,000	0.1	0.1	10.0	6.5	5.5	4.1	5.3	5.8	9.2
ages 15-24	5	4	733	422	303	209	244	291	446
female	1	3	201	112	93	90	96	101	173
of which pregnant women (MDG)	-	-	17	14	22	13	18	24	35
male	4	1	532	310	210	119	148	190	273

*Up to 1999, according to the definition of the Ministry of Health of the Republic of Belarus.

Table 15

Environmental risk, management and protection

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Proportion of land area covered by forest (MDG)	35.6	39.9	40.1	40.1	40.3	40.5	40.6	39.0	39.5
Area protected to maintain biological diversity (% of total land) (MDG)	5.8	5.8	6.5	6.9	6.9	7.0	7.5	7.6	7.6
Unit of energy use (kg oil equivalent in millions of rubles) per unit of GDP* (MDG)	339.1	291.1	284.4	264.8	242.7	220.6	209.4	201.0	191.4

*Per unit of GDP in constant prices of 1995.

Table 16

Principal air pollutants

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Pollutant Carbon monoxide (CO)*	19	9	8	9	9	8	9	10	9
Sulphur dioxide (SO2)*	55	21	20	15	14	12	11	11	10
Nitrogen dioxide (NO2)*	10	5	5	5	5	5	5	5	6
Volatile organic compounds*	14	7	6	6	5	5	6	6	6
Toxic waste***	…	…	…	…	…	…	…	9	12
Proportion of families using solid fuels	…	28.1	31.6	26.0	23.6	21.1	18.9	18.0	21.7

*Kg per capita from not removable sources of pollution.
**Volume replaced from industrial sites to the sites of communal property for further conservation (statistics provided by the Ministry of Natural Resources and Environmental Protection of Belarus).

Table 17

Housing Characteristics

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Average total dwelling space per person (in m^2)	17.9	19.7	19.9	20.2	20.6	20.8	21.2	21.6	22.0
% of households with unshared use of toilets and kitchens (MDG)	…	5.0	5.9	3.7	4.1	4.8	4.1	3.7	4.4
Cost of accommodation, including services, as % of total household expenditure*	…	4.7	5.6	4.8	3.6	2.0	3.0	4.8	7.2
Average number of hours per day of electricity Urban	24	24	24	24	24	24	24	24	24
Rural	24	24	24	24	24	24	24	24	24
% of households having access to safe drinking water** Urban (MDG)	100	100	100	100	100	100	100	100	100
Rural (MDG)	100	100	100	100	100	100	100	100	100
Proportion of households having accommodation in private property	…	59.3	62.7	62.8	61.9	64.6	73.5	73.2	74.7

*Cost of accommodation includes rent (as relevant), mortgage interest (as relevant), water, electricity, gas, heating, minor repairs.
**Proportion of population, having access to one of the following sources of water: tap water, communal wells, hand pump wells, secured wells, secured sources and collectors of rain water.

Table 18

Security from crime

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Violent crimes recorded per 100,000 population*	26	34	35	37	39	38	38	35	38
White collar crimes recorded per 100,000 population**	8	13	19	20	19	19	21	23	33
% of recorded crimes in which the offender is convicted***	63.4	61.4	65.8	67.3	71.7	71.0	70.0	63.2	64.1
Drug related crimes per 100,000 population	…	5	7	12	11	11	14	10	9

* Includes homicide, attempted murder, infliction of grave bodily harm, sexual assault and attempted sexual assault.
**Includes crimes recorded and booked by the police, such as abuse of power or authority, excess of power or authority, negligence, corruption and others calculated per 100,000 people.
***Includes percentage of solved crimes.

Table 19

Social inclusion/exclusion

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
% of school dropouts*	…	0.36	0.36	0.41	0.92	0.83	0.61	0.50	**
Telephone connections per 100,000***	11,660	15,340	16,950	18,740	20,330	22,260	23,410	24,480	25,640
Mobile phones per 100,000	…	51.0	74.2	87.8	131.2	244.1	509.5	1,422.8	4,664.4
Access to Internet per 100****	…	…	0.003	0.02	0.03	0.04	0.05	0.08	9.0
Number of TV sets per 100 households	…	103	103	104	118	116	119	115	118
Number of radios per 100 households	…	…	…	…	32	30	29	24	22

*Proportion of expulsions from schools.
**As of 2002, number of expulsions will be reflected in reports for the academic year 2003/04.
***Number of home phones.
****Up to 2002, in accordance with the statistics of the Ministry of Communications of the Republic of Belarus.

Table 20

Human development index*

Year	1990	1995	1996	1997	1998	1999	2000	2001	2002
Indicator values									
% of adult literacy	98.1	98.8	99.0	99.2	99.4	99.6	99.6	99.7	99.7
Combined gross enrolment ratio,%	74	72	74	75	78	79	79	79	79
Expectation of life at birth, years	71.1	68.6	68.6	68.5	68.4	67.9	69.0	68.5	68.0
Per capita GDP (PPP), in USD**	…	5,047	5,454	6,219	6,856	7,225	7,544	8,112	8,790
Index values									
Education index	0.901	0.899	0.907	0.911	0.923	0.927	0.927	0.927	0.927
Life expectancy index	0.768	0.727	0.727	0.725	0.723	0.715	0.733	0.725	0.717
GDP index	…	0.412	0.667	0.689	0.706	0.714	0.722	0.734	0.747
Human Development Index	…	0.679	0.767	0.775	0.784	0.785	0.794	0.795	0.797
Gender related development index	...	0.758	0.765	0.774	0.783	0.785	0.796	0.798	0.800

*Standardised in terms of its composition in 2000
** This indication is calculated on comparative basis with the year 1996, including GDP growth rate and US $ devaluation rate.