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**NATIONAL
SUSTAINABLE DEVELOPMENT
STRATEGY
ROMANIA 2013-2020-2030**

GOVERNMENT OF ROMANIA

***MINISTRY OF ENVIRONMENT AND
SUSTAINABLE DEVELOPMENT***

**UNITED NATIONS DEVELOPMENT
PROGRAM**

***NATIONAL CENTRE FOR SUSTAINABLE
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Executive Summary

This National Strategy aims to connect Romania to a new philosophy of development, adopted by the European Union and widely shared globally—that of sustainable development.

Close to the end of the first decade of the twenty-first century, after a long, traumatic transition to pluralistic democracy and a market economy, Romania still needs to overcome significant gaps relative to the other Member States of the European Union, while seeking to absorb and implement the principles and practice of sustainable development in the context of globalization. Despite the notable progress it has made in recent years, it is a fact that Romania's economy still relies on intensive consumption of resources, society and the administration have yet to develop a shared vision, while the natural capital faces the risk of degradation that may become irreversible.

This Strategy sets specific objectives for moving, within a reasonable and realistic timeframe, toward a new model of development that is capable of generating high value added, is motivated by interest in knowledge and innovation, and is aimed at continued improvement of the quality of life and human relationships in harmony with the natural environment.

In terms of general orientation, this document addresses the following **strategic objectives** for the short, medium and long run:

Horizon 2013: To incorporate the principles and practices of sustainable development in all the programmes and public policies of Romania as an EU Member State.

Horizon 2020: To reach the current average level of the EU countries for the main indicators of sustainable development.

Horizon 2030: To get significantly close to the average performance of the EU Member States in that year in terms of sustainable development indicators.

The implementation of these strategic objectives will ensure high rates of economic growth in the medium and long run and, as a result, a significant reduction of social and economic disparities between Romania and the other Member States of the European Union. Considering the main indicator that measures convergence in real terms, Gross Domestic Product per person (GDPpc) adjusted for standard purchasing power parity (PPP), the implementation of the Strategy enables Romania to exceed in 2013 half of the current EU average, to approach 80% of the EU average in 2020 and to rise slightly above the EU average in 2030.

The commitments that Romania undertook as a Member State of the European Union are thus going to be fulfilled in conformity with the Treaty of Accession, along with

the effective implementation of the principles and objectives of the Lisbon Strategy and the renewed (2006) Sustainable Development Strategy of the European Union.

The text is structured in five parts:

Part I presents the conceptual framework, defines the notions used and describes the main points of the renewed EU Sustainable Development Strategy of 2006 (EU SDS), the state of play regarding the preparation of agreed sustainable development indicators, and the relevant steps Romania has taken during the pre- and post-accession periods.

Part II provides an evaluation of the current condition of Romania's natural, man-made, human and social capital. This approach is in line with the latest (May 2008) recommendations of the Joint Working Group for Sustainable Development Indicators formed by the EU Statistical Office (Eurostat), the UN Economic Commission for Europe (UNECE) and the Organisation for Economic Cooperation and Development (OECD).

Part III offers a prospective view and establishes precise objectives for the three time horizons, following closely the logic of the key challenges and cross-cutting policies as they are described in the renewed Sustainable Development Strategy of the European Union.

Part IV tackles the specific problems facing Romania and sets targets in order to accelerate the transformations toward a sustainable development model, while narrowing and closing the existing gaps in relation to the average performance of the other EU Member States.

Part V contains specific recommendations concerning the establishment and functioning of the institutional framework designed to ensure the implementation and monitoring of, and the reporting on, the results of the revised National Sustainable Development Strategy. The proposals take into consideration the experience and established practice of other EU Member States and envisage some innovative solutions, suited to Romania's specific circumstances, which are aimed at promoting the accountability of public authorities and the active involvement of societal actors in an effort to meet the goals of sustainable development.

Rounding off the objectives included in national development strategies, plans and programmes, this Sustainable Development Strategy sets the main guidelines for action towards the adoption and implementation of the principles of sustainable development in the immediate future:

- Rational correlation of development goals, including cross-sector and regional investment programmes, with the established potential and sustaining capacity of natural capital;
- Accelerated modernisation of the educational, training and public health systems with due consideration of the unfavourable demographic trends and their impact on the labour market;
- Use of the best available technologies, by both economic and ecological standards, for publicly funded investments at national, regional and local levels, and

encouraging the choice of such technologies on the part of private investors; entrenchment of eco-efficiency standards in all production and service activities;

- The ability to anticipate the effects of climate change, to prepare solutions for adaptation in the long run and to develop cross-sector contingency plans comprising portfolios of alternative crisis-management solutions in case of natural or man-made disasters;

- Ensuring food security and safety by turning to good account Romania's comparative advantages with regard to increased agricultural production, including organic farming; balancing the quantitative and qualitative growth of agricultural output for human and animal consumption with the higher demand for biofuel production without compromising the need to maintain and improve soil fertility, biodiversity and environmental protection;

- The need to identify additional, sustainable financial resources for large-scale projects and programmes, particularly in areas such as infrastructure, energy, environmental protection, food safety, education, healthcare and social services;

- Protection and promotion of Romania's cultural and natural heritage; efforts to meet the European norms and standards on the quality of life should be pursued together with the revival of traditional occupations and ways of life in a modern setting, especially in high mountain areas and wetlands.

The objectives set in this Strategy emerged from national and regional debates; they focus on the maintenance, consolidation, enhancement and continued adaptation of the structural configuration and functional capacity of natural capital as a foundation for the preservation and augmentation its support capacity and its ability to operate under the pressure of social development, economic growth and the foreseeable impacts of climate change.

The Strategy proposes an outlook of Romania's sustainable development in the next two decades by setting objectives that go beyond electoral cycles or opportunistic political preferences. For this reason the National Sustainable Development Strategy was submitted for endorsement by the Romanian Parliament, while the implementation, monitoring and reporting mechanisms and those for consultation with the civil society and the citizens are regulated by law.

Parallel to the implementation of the Strategy, the newly established executive and consultative structures will start, in 2009, a process of comprehensive re-evaluation of the national, sectoral and regional plans, strategies and operational programmes in order to make sure that they are in conformity with the principles and practice of sustainable development and with the evolving set of relevant EU regulations. Those structures will also be responsible for the preparation of Romania's views on, and contributions to, further reviews of the EU Sustainable Development Strategy.

Project history and methodology

The preparation of the revised National Sustainable Development Strategy (NSDS) is an obligation that Romania has undertaken as a EU Member State in conformity with agreed Community objectives and the methodological guidelines of the European Commission.

The document is the result of a joint project of the Romanian Government, though the Ministry of Environment and Sustainable Development, and the United Nations Development Programme, through the National Centre for Sustainable Development in Bucharest. The project was approved by Government Decision HG No. 1216 of 4 October 2007, published in the Official Gazette of Romania No. 737 of 31 October 2007.

(a) For the execution of the project the following **functional and support structures** were created:

- **The National Public Debate Council** was the main deliberative forum and included authorised representatives of the relevant ministries and other central government agencies, political parties, business associations, labour unions, scientific and academic community, interested non-governmental organisations and other groups of the civil society.

The Council convened in monthly sessions to discuss the successive versions of the draft Strategy throughout the elaboration process.

The comments, suggestions and recommendations that were made during the sessions of the Council or subsequently submitted in writing were considered by the Drafting Group and incorporated in the final version of the Strategy.

The deliberations of the National Council were conducted in open sessions and received reasonable coverage in the media.

- **The Regional Consultative Councils** convened twice in each of the eight Development Regions of Romania (in March and May 2008, respectively) with the participation of representatives of local public authorities, associations of elected officials, political parties, universities and research institutions, business community, chambers of commerce and industry, labour unions, professional associations, non-governmental organisations and the mass media.

The resulting contributions were examined by the Drafting Group and incorporated in the final version of the Strategy.

- **The Scientific Council** consisted of members and corresponding members of the Romanian Academy and operated under its aegis to provide a critical review of the scientific accuracy of the draft Strategy.

- **The Drafting Group** was formed of specialists with recognized professional competencies in their respective fields of expertise; it prepared the conceptual framework, the thematic summary and the successive versions of the draft Strategy

that were subsequently submitted for discussion to the National Public Debate Council, the Regional Consultative Councils and the Scientific Council.

The Drafting Group examined the comments resulting from the deliberative process and from public consultations, along with the written contributions received from various agencies, associations, interested groups and individual persons, and incorporated them in the final version of the draft document.

- **Working Groups** were established within ministries and other government agencies to provide the necessary factual information for the drafting process. The figures and other data used in the final version of the draft Strategy were checked and updated with the support of the National Forecasting Commission and the National Institute of Statistics.

- Administrative support was provided, on the basis of the Memorandum of Understanding between the Ministry of Environment and Sustainable Development and the United Nations Development Programme in Romania, by:

The Operational Secretariat was established by the Ministry of Environment and Sustainable Development and was tasked with the coordination of relationships with central and local government authorities and other partners, and with the management of all official correspondence related to project;

The Technical Secretariat, which operated at the National Centre for Sustainable Development /UNDP, prepared the terms of reference for the selection of the personnel involved in the project, organized the public debate process and provided the necessary logistical support.

(b) The methodology was designed in accordance with the recommended procedures of the European Commission and the UNDP practice.

At an early stage, the conceptual framework was prepared in the form of a draft table of contents that was further expanded to include the main theses to be developed in each chapter.

In parallel, an inventory of the main sources of reference was compiled on the principles, objectives and priorities of sustainable development, providing easy access to relevant official documents of the United Nations, the European Union and Romanian national plans, strategies and sectoral operational programmes.

In the following stage, the Drafting Group prepared preliminary versions for all chapters that were subsequently revised to include data provided by government agencies, to eliminate overlaps and redundancies, and to ensure the coherence of the document as a whole.

The comments and observations that were made in the course of the public debate process and those that were received in writing from institutions, associations or concerned individuals were incorporated in the final version of the Strategy, after consideration by the Drafting Group..

All the documents that were relevant to the elaboration of the Strategy (successive versions of the draft text, reference sources, minutes of the National Public Debate

Council, Regional Consultative Councils, Scientific Council and Drafting Group meetings, written contributions and comments received from interested organisations and individuals) were posted on a dedicated Project Website.

The contact points for the project (Ministry of Environment and Sustainable Development, National Centre for Sustainable Development, and the EurActiv press agency) were publicized through the mass media in order to facilitate the collection of written comments and contributions from the public.

Along with the drafting process, an English version of the document was produced in order to obtain informal international consultation prior to the official presentation of the document to the European Commission. In this yet unfinished format, the draft National Sustainable Development Strategy for Romania was presented at the annual session of the European Chapters of the Club of Rome (Bucharest, 24-25 May 2008).

(c) The following statistics illustrate the magnitude of the **participatory mechanism** that operated during the preparation of the Romanian National Sustainable Development Strategy: **(as of 24 July 2008)**

- National debate events: 5
- Regional debate events: 16
- Meetings of the Scientific Council: 3
- Meetings of the Drafting Group, in plenary sessions or expert sub-sections: 21
- Meetings of the Drafting Group co-ordinators with representatives of public authorities, political parties, business and professional associations, labour unions federations, non-governmental organisations, youth groups and other concerned groups and persons: 39
- Total number of participants in public debate sessions at national level: 104
- Total number of participants in public debate sessions organised at regional level: 599
- Total number of interventions in public debate sessions at national and regional levels: 143
- Total number of written comments, contributions and observations received: 147
- Total number of visitors to the website dedicated to the Strategy project www.strategia.ncsd.ro: an average of 550 weekly hits between November 2007 and June 2008
- Number of draft versions of the Strategy submitted to public debate: 6; number of revisions: 38.

PART I. CONCEPTUAL FRAMEWORK

1. Introduction: Necessary definitions

Sustainable development has developed as a concept through several decades of active international scientific debate and has acquired distinct political connotations in the context of globalization. In the Romanian language, the concept is described by two equivalent terms "*dezvoltare durabila*" and "*dezvoltare sustenabila*" that have emerged as synonymous borrowings from different linguistic sources and are used alternatively throughout the Romanian version of the document.

In recent history, the first signal that economic and social development of the world's states and of humanity as a whole can no longer be separated from the consequences of human activity on the natural environment, was set forth in the 1972 report of the Club of Rome on the *Limits of Growth* (Meadows Report). The document summarized the available data on the evolution of five factors (population growth, the impact of industrialisation, pollution, food production and the trends toward depletion of natural resources) suggesting the conclusion that the development model in place at the time could not be sustained in the long run.

The issues involved in the relationship between humankind and the environment became a matter of concern for the international community starting with the United Nations Conference on the Human Environment (Stockholm, 1972) and took concrete shape in the work of the World Commission on Environment and Development, which was established in 1985. The report of the Commission on *Our Common Future* was presented in 1987 by G.H.Brundtland. It offered the first broadly accepted definition for sustainable development, as «[the development path] that meets the needs of the present generation without compromising the ability of future generations to meet their own needs». The concept of sustainable development proposes an integrated policy and decision-making approach, in which environmental protection and long-term economic development are considered to be complementary and interdependent.

Henceforth, the complex problems of sustainable development acquired a global political dimension as they were tackled at the summit-level United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (1992), the Special Session of the United Nations General Assembly which adopted the Millennium Goals (2000) and the Earth Summit in Johannesburg (2002). Concrete programmes for action at global level were developed (such as Local Agenda 21) according to the principle «think globally, act locally».

A series of international conventions were adopted in the course of this process, spelling out precise obligations for states and strict implementation deadlines in such areas as climate change, biodiversity conservation, the protection of forests and

wetlands, curbs on the use of certain chemicals, access to information regarding the state of the environment, and more. Those agreements define the international legal space for the application of the aims and principles of sustainable development.

It is thus widely recognized that the Earth has a limited capacity to meet the growing demand of the socio-economic systems for natural resources and to absorb the destructive effects of their overuse. Climate change, soil erosion and desertification, the pollution of soil, water and air, the shrinking area of tropical forest systems and wetlands, the extinction or decline of a large number of aquatic and terrestrial species, the accelerated depletion of non-renewable natural resources have started to have measurable negative effects on the socio-economic development and on the quality of life of human populations in vast areas of the planet.

The concept of sustainable development is built on the premise that human civilization is a sub-system of the Ecosphere and is dependent on its material and energy flows, on its stability and capacity for self-adjustment. Public policies that are being developed on this assumption, such as Romania's National Sustainable Development Strategy, seek to restore and preserve a rational and enduring equilibrium between economic development and the integrity of the natural environment in ways that society can understand and accept.

For Romania as a Member State of the European Union, sustainable development is not one of several possible options, but the only rational prospect for advancement as a nation, resulting in the establishment of a new development paradigm at the confluence of economic, social and environmental factors.

2. EU Sustainable Development Strategy

Sustainable development has become a political objective of the European Union since the Maastricht Treaty of 1997. In 2001, at Goteborg, the European Council adopted the Sustainable Development Strategy of the European Union; an external dimension was added to it at the Barcelona Council in 2002.

The European Commission commenced the review process of the Strategy by publishing, in February 2005, a critical evaluation of the progress achieved since 2001 that also pointed to a series of directions for action to be further pursued. The document revealed some unsustainable tendencies affecting negatively the environment that could impact the future development of the European Union: climate change, threats to public health, poverty and social exclusion, depletion of natural resources and erosion of biodiversity. Having identified those issues, in June 2005, the heads of state and government of the EU Member States adopted a Declaration on the guidelines for sustainable development, including the revised Lisbon Agenda for Growth and Jobs as an essential component of the overarching sustainable development objective. Following wide-ranging consultations, the European Commission presented, on 13 December 2005, a proposal to renew the 2001 Goteborg Strategy.

As a result of that process, the EU Council adopted, on 9 June 2006, the renewed Sustainable Development Strategy for the enlarged EU space. The document reflects

a cohesive and coherent strategic vision with the **general objective** to develop further actions enabling the European Union to achieve continuous improvement of the quality of life for the present and future generations by creating sustainable communities that are capable to manage and use resources efficiently and to realize the potential of the economy for social and ecological innovation in order to provide prosperity, a better environment and social cohesion.

The European Union and its Member States have the responsibility for the implementation of the Strategy by involving all institutional components at national and EU levels. The importance of close collaboration towards the goals of sustainable development with the civil society, business, social partners, local communities and citizens is also underlined.

Four key objectives are thus identified:

- Environmental protection through measures that make it possible to decouple economic growth from negative environmental impacts;
- Social equity and cohesion through observance of fundamental human rights, cultural diversity, gender equality and combating discrimination of any kind;
- Economic prosperity through the promotion of knowledge, innovation and competitiveness with an aim to ensure high living standards and full and high-quality employment;
- Meeting EU's international responsibilities through the promotion of democratic institutions in the interest of peace, security, freedom and of the principles and practice of sustainable development throughout the world.

In order to make sure that the economic, environmental and socio-cultural components are integrated and correlated in a balanced manner, the Sustainable Development Strategy of the European Union sets the following **guiding principles**:

- Promotion and protection of fundamental human rights;
- Solidarity within and between generations;
- Open and democratic society;
- Information and active involvement of citizens in decision making;
- Involvement of businesses and social partners;
- Policy coherence and the quality of governance at local, regional, national and global levels;
- Integration of economic, social and environmental policies through impact evaluations and consultation of stakeholders;
- Use of best available knowledge to ensure that policies are economically sound and cost-effective;
- Application of the precautionary principle in case of scientific uncertainty;
- Application of the "make polluters pay" principle.

The substance of the EU Strategy concentrates on 7 **key challenges** and 2 **cross-cutting policy areas**. Many of the targets agreed at EU level are set in numerical or percentage terms, with strict implementation deadlines that are mandatory for all Member States.

The EU Strategy also establishes precise **implementation, monitoring and follow-up** procedures, together with obligations for the European Commission and all Member States to report every two years on their commitments. The next deadline for the review of progress and priorities of the EU Strategy by the European Council is scheduled for September 2009, with the obligation of all Member States to report on the implementation of their National Strategies no later than June 2009.

Since Romania has undertaken to finalize its own revised National Sustainable Development Strategy and present it to the European Commission before the end of 2008, the first progress report on its implementation has to be presented by June 2011.

3. Sustainable development indicators

The use of indicators to monitor development trends in domains other than economic activities precedes the formulation of the principles of sustainable development; it emerged in parallel with the drafting of the early sustainable development strategies under the aegis of the United Nations and the European Union, respectively.

Such monitoring instruments were produced by a variety of institutions, from business enterprises to civil society organisations, groups of experts or research centres, local administration units, national governments, inter-governmental organisations or international financial institutions. The magnitude of these efforts has intensified in recent years, both at a national level and through multinational cooperation, reflecting the perceived need to have such instruments, to cover a diverse array of applications and to overcome a host of methodological difficulties. Persistent notable differences in terms of structure, maturity and effective utilization of coherent indicator sets illustrates the complexity of the task to find effective compatibility between normative and empirical approaches applying to distinct domains to be integrated in the concept of sustainable development: economy, society and natural environment. In the process, methodological aspects that are still under theoretical consideration are taken up dynamically and applied in the compilation of statistical reports.

An agreed and accepted set of sustainable development indicators, including the ability to reflect environmental and social factors in the system of national accounts through "green accounting" instruments, remains a priority concern for the statistical offices of the European Union (Eurostat), the United Nations Economic Commission for Europe (UNECE) and the Organisation for Economic Co-operation and Development (OECD). Romania, through the National Institute of Statistics, is actively engaged in this process. At this stage, the Romanian National Institute of Statistics conveys to Eurostat the available data based on a partial system of indicators that are integrated in the European system of sustainable development monitoring. Currently, the sources of data can be improved through direct and more effective inter-agency cooperation, in particular with regard to quantifying the human and social capitals and the carrying capacity of natural ecosystems. The system that is being used to monitor the implementation of the renewed Sustainable Development Strategy of the European Union (2006) admits the existence of such problems explicitly and recommends that the Member States should continue to

revise their respective sets of indicators in order to ensure their quality, comparability and relevance relative to the objectives of the EU Strategy.

One of the key points of the renewed Sustainable Development Strategy of the European Union is that it introduces a regulated monitoring and reporting process with an aim to harmonize the specific national requirements of the Member States with the need for coordination and synthesis at EU level. It has been established that the objectives to be attained and the instruments for measuring economic performance in relation to social and environmental responsibilities shall be defined through constructive dialogue to be engaged by the European Commission and each of the Member States with the business community, social partners and relevant elements of the civil society.

The European Commission, with the assistance of the Working Group for Sustainable Development Indicators, was assigned the task to continue to develop the set of indicators in order to improve consistency in reporting procedures. An early version of that set of indicators was used for the first Evaluation Report (2007) of the renewed Sustainable Development Strategy of the European Union. In its current form, the monitoring mechanism points to several categories of indicators that are still under development. The existing set of indicators is considered to be adequate for monitoring the quantitative targets of the EU Strategy, but incomplete or insufficient for monitoring and evaluating the fulfilment of its qualitative objectives (such as 'good governance', for example).

The structure of the indicators set produced by Eurostat for the first monitoring report on the renewed EU Strategy associates a headline (Level 1) indicator to each strategic dimension, a set of indicators associated to its subordinate operational objectives (Level 2), and descriptive indicators for the domains of intervention of associated policies (Level 3). A supplementary set of indicators outside this structure (context indicators) is included to reflect phenomena that do not easily allow for normative interpretation or that cannot be gauged in terms of expected response to intervention.

In accordance with the decision of the European Commission, the EU Member States have the obligation to formalize suitable institutional support to coordinate the development and use of statistical monitoring instruments and to review periodically (every two years) each National Strategy in order to ensure compliance with the systematic reporting requirements on the implementation of the Sustainable Development Strategy formulated at EU level. Consequently, a continuous process is envisaged to revise the national and EU strategies at short intervals in order to reduce the margin of error in the estimation of the resources required for the implementation of the agreed objectives.

To monitor and verify the implementation of this National Strategy, a national system of statistical indicators for sustainable development will be created, maintained and duly harmonized for congruence with the relevant system of indicators in use at EU level for monitoring national progress in relation to the EU Sustainable Development Strategy. The collection and processing of reliable data, to be quantified and updated regularly and aggregated as indicators of sustainable development, will make it possible to measure progress towards the objectives set by the Strategy and to provide accurate reporting on the results. The following types of indicators are scheduled to become operational:

- National sustainable development indicators, which are focused on the key priorities, expressed through measurable targets, that shall also make it possible to compare the national performance to that of international partners and to the objectives of the renewed EU Sustainable Development Strategy. This set of indicators shall be based on the results of combined Working Group and shall be updated permanently.
- Progress indicators for the Romanian National Sustainable Development Strategy, covering the entire range of policies generated by the National Strategy and including also areas that are not specifically mentioned in the EU Strategy. In this way all policies will be subject to monitoring, thus motivating the political decision-makers and enabling the public to evaluate the success of undertaken actions.

The Interdepartmental Committee for Sustainable Development, as described in Part V of this Strategy, will coordinate and supervise all activities pertaining to the elaboration of the national system of sustainable development indicators. The mandate, composition and organisational structure of the future national working group for sustainable development indicators, the deadlines for completion at each stage (considering that the first deadline for reporting on the implementation of the National Strategy is June 2011), as well as the role of the National Institute of Statistics in terms of conceptual and methodological coordination will be established within that framework.

4. Measures taken in Romania towards compliance with sustainable development objectives during the pre- and post-accession process

The awareness about discrepancies between the existing development model and the support capacity of natural capital set in gradually in Romania in the 70's and 80's of the past century, but it was confined to certain academic and intellectual circles and had a limited impact on political decision-makers. The profound political changes that started in December 1989, particularly access to information that was outside the public domain during the communist regime, considerably expanded the interest in such matters among the public opinion and the media. Numerous non-governmental organisations and even political parties with an environmental agenda came into being within a short period of time, mirroring the initiatives that had long been functional in Western Europe. Institutions dedicated to environmental concerns were created within the executive and legislative structures (ministry, parliamentary committees), and the first acts of primary and secondary environmental legislation were adopted.

At an early stage, some sustainable development principles were incorporated in public policies as a result of the concrete obligations undertaken by Romania under the declarations and conventions that were developed following debates within the UN and its specialized agencies (for example, Romania was among the first European countries to ratify the Kyoto Protocol to the United Nations Framework Convention on Climate Change). The prospect of EU accession caused these endeavours to become more specific by emphasizing the priority of adopting a new philosophy of

development that could ensure an organic correlation of economic, social and environmental dimensions along with the assimilation of the Community *acquis* in its entirety.

A first National Strategy for Sustainable Development was prepared between 1997 and 1999 with the assistance of the United Nations Development Programme (UNDP); the Strategy integrated a large number of contributions assembled through a broad participative process, and was adopted as an official policy document of the Romanian Government. Although the impact of that document on public policies at national level was relatively limited, it supplied the conceptual and methodological framework for stakeholder consultation and facilitated the successful implementation of Local Agenda 21 in approximately 40 counties and municipalities. Following EU accession, an interim report was presented to the European Commission, in July 2007, on the implementation of the 1999 Strategy and the application of sustainable development principles in Romania.

The endeavours to draft a comprehensive sustainable development strategy for the year 2025 continued under the aegis of the Romanian Academy between 2002 and 2004 at the initiative of the Romanian Presidency, but the project did not get beyond the drafting stage and was not finalized as a coherent document.

In the absence of an updated sustainable development strategy compliant with the relevant directives of the European Union, the strategy documents and sectoral programmes prepared in Romania during the pre- and post-accession periods contain provisions and (in some cases) precise objectives consistent with the principles of sustainable development; these policy documents have provided most of the reference material for the drafting of the present Strategy.

Romania's **Treaty of Accession to the European Union**, signed on 25 April 2005, together with the additional Protocols comprise Romania's concrete commitments to implement the totality of the Community *acquis*; the documents include deferments on the implementation of certain environmental obligations (to 2015 for highly polluting industrial installations, to 2016 for municipal waste sites, and to 2018 for the expansion of urban systems for wastewater collection and treatment).

The National Development Plan 2007-2013 is the key document for strategic planning and multi-annual financial programming designed to give a sense of direction to national economic and social development, in agreement with the principles of the EU Cohesion Policy. The Plan sets as a general objective the fastest possible reduction of socio-economic disparities between Romania and the other EU Member States and details the specific objectives of this process along 6 priority lines of action that integrate, directly or indirectly, the demands of sustainable development for the short and medium term:

- To increase competitiveness and develop a knowledge-based economy, including among the main subsidiary priorities the improvement of energy efficiency and expanded use of renewable energy resources in order to mitigate the effects of human-induced climate change;
- To upgrade transport infrastructure to EU standards, emphasizing the sustainable development of infrastructure and means of transport by reducing negative environmental impacts, promoting inter-modality, improving traffic safety and the protection of critical infrastructure;

- To protect and improve the quality of the environment, including measures to raise living standards through provision of public utilities, in particular water and waste management; to enhance regional and sectoral environmental management, conservation of biodiversity, ecological rehabilitation, risk prevention and intervention in case of natural disasters;
- To develop and use human capital more effectively by promoting social inclusion and strengthening administrative capacity for the development of a modern and flexible labour market, enhancing the relevance of the educational and professional training system for better employment, encouraging the emergence of entrepreneurial culture;
- To develop the rural economy and to increase productivity in agriculture, forestry and fisheries, including measures for rational land use, ecological rehabilitation of areas affected by soil degradation or pollution, food safety, animal welfare, encouragement of aquaculture in coastal areas;
- To diminish development disparities between and within regions, envisaging, *inter alia*, improved performance of local administrations and upgrading of local public infrastructure, protection of natural and cultural heritage, integrated rural development, regeneration of urban areas affected by industrial restructuring, consolidation of the business environment and promotion of innovation. In addition, activities involving cross-border, trans-national and inter-regional cooperation are envisaged to support the socio-economic integration of border areas and to increase the accessibility of Romanian regions as components of the EU territory.

The financial programming of the National Development Plan 2007-2013 estimates a total of Euro 58.67 billion in required investment, to be distributed in yearly instalments.

The **National Strategic Reference Framework 2007-2013**, which was accepted by the European Commission on 25 June 2007, sets the priorities for the application of the EU Structural Intervention Instruments (the European Fund for Regional Development, the European Social Fund and the Cohesion Fund) and links the priorities of the National Development Plan 2007-2013 to those of the EU through social and economic cohesion policies: Cohesion Policy in Support of Growth and Jobs: Community Strategic Guidelines 2007-2013 and the revised Lisbon Strategy. The National Strategic Reference Framework presents the socio-economic situation in Romania at the time of accession, analyses its strengths, weaknesses, opportunities and threats (SWOT), offers a strategic vision and provides a synthesis of the Sectoral Operational Programmes (SOP) to be implemented under the convergence objective.

To realize this strategic vision for Romania, the European Commission allocated Euro 19.27 billion for the period 2007-2013 within the cohesion policy framework, out of which 19.21 billion are earmarked for the convergence objective (with an estimated co-financing from national sources of Euro 5.53 billion, of which 73% from public sources and 27% from private sources) and Euro 0.46 billion are devoted to the objective of Territorial European Cooperation.

The National Strategic Reference Framework together with the **National Reform Programme** and the **Convergence Programme** address the objectives of convergence by defining directions for action at national level corresponding to the EU policies and strategies.

Relevant facts and figures for an analytical diagnosis of Romania's current condition and an evaluation of public policies and of existing gaps relative to the average performance levels of the other EU countries are provided in the draft **Post-Accession Strategy** prepared by the Romanian Government in 2007.

The measures undertaken by Romania to address the UN-sanctioned targets for global sustainable development are presented in the second **Report on the Millennium Development Goals**, which was adopted by the Romanian Government on 18 September 2007.

The content of these policy documents and the corresponding implementation measures taken during the first year after Romania's EU accession are highly relevant as a response to the key challenges and objectives set by the renewed Sustainable Development Strategy of the European Union of 9 June 2006. At the same time, a careful analysis of those documents brings to light several omissions and redundancies in terms of inter-departmental coordination. The existing strategies and programmes are targeted on different timeframes. Moreover, they fail to fit into an integrating vision such as the one offered by the concept of sustainable development.

PART II. CURRENT STATE OF THE SOCIO-ECONOMIC SYSTEM AND NATURAL CAPITAL IN ROMANIA

In order to be able to act in a knowledgeable and realistic manner toward the strategic goals of sustainable development, it is necessary that Romania, its citizens and its external partners have a clear representation of the starting point, the real assets of the country, but also of the shortcomings resulting from a complicated historical legacy. By way of consequence, in light of Romania's specific conditions, meeting the requirements of transition to the new model of sustainable development, a process in which Romania is now engaged alongside the other EU Member States, has to go hand in hand with an additional national effort to overcome the existing substantial gaps in several areas.

1. Natural capital

Romania is a medium-sized country compared to the other EU Member States, with a surface area of 238,391 square kilometres (comparable to that of the United Kingdom) and a population of 21,584,365 in 2006 (comparable to that of Hungary and Czech Republic taken together). It is located in the hydrographic basins of the Danube river and the Black Sea and encompasses a large portion of the Carpathian mountain range.

Five of the eleven bio-geographic regions of Europe are found in Romania: alpine, continental, Panonian, Pontic (maritime) and steppe. The country is also placed at the junction of the Mediterranean, Pontic and Eurasian Palaeartic eco-zones of flora and fauna. This geographic position, physiographic and lithologic complexity and a radial distribution of gradients over the forms of relief account for a great variety of mesoclimatic and microclimatic conditions and soil patterns. This variety of the abiotic substratum in terms of composition and structure also explains the wealth, distribution and representation of natural habitat types throughout Romania's territory. Of the 198 habitats recorded in continental Europe (of which 65 have priority status) Romania holds 94 (23 with priority status), and of the 14 biomes identified worldwide, 5 are present in Romania: temperate coniferous forests, temperate deciduous forests, pasture lands, mixed mountainous landscapes, and lakes. Existing records show a remarkable variety of ecosystem types, species and superior plant and animal taxons, although a thorough inventory of species has not yet been completed, while the inventory of genetic resources is still at an early stage.

The variety and relative balance of **relief forms** are unique in Europe and quite rare in the world: 28% mountain areas (altitudes over 1,000 metres), 42% hills and plateaus (altitudes between 300 and 1,000 metres) and 30% plains (below 300 metres in altitude).

Romania holds 54% of the Carpathian mountain range of medium elevation (1,136 metres on average) with just a few peaks exceeding 2,500 metres in altitude. The mountains represent the portion of the territory that has been least altered by human intervention, with low densities of stable population and small settlements which are thinning out because of domestic and external migration following the extinction of traditional occupations. These factors also account for the location of 12 out of 13 national parks and 9 out of 14 nature parks in the mountainous region.

The hills and plateau areas have suffered more extensive encroachment by human activities (urban and rural settlements, elements of infrastructure development, vineyard and orchard plantations, cash crops, animal husbandry, forestry, hydrocarbons and ore mining, industrial enterprises) and are subject to more severe deterioration as a result of deforestation, erosion, landslides and soil degradation. Still, the hills and highlands contain a variety of protected areas and preserve a significant potential for the protection of additional areas that have been only slightly altered or not altered at all by human activities.

The plains are the most densely populated and intensively exploited, with few remaining natural sites. The severe floods in the summer of 2005 affected in particular the low-lying meadows of the Danube flood plain, where extensive damming and reclamation work was done before 1989. Consequently, the general interest to bring vast tracts of land back to natural state was rekindled with beneficial environmental and economic effects.

The Danube Delta, the largest wetland area of Europe covering an area of 5,050 square kilometres (of which 4,340 sq km in Romanian territory), acquired the status of Biosphere Reserve in recognition of its global importance and it is subject to special attention and monitoring from UNESCO and the Ramsar Convention. The Romanian coastline of the Black Sea is about 245 kilometres long, between the national frontiers with Ukraine and Bulgaria, respectively. The Romanian portion of the continental shelf (to a depth of 200 metres) covers 24,000 square kilometres from a total 144,000 sq km (16.6%). The coastal zone is subjected to an advanced process of erosion (about 2,400 hectares of beach lost during the past 35 years), which not only harms the tourism business, but also endangers people's homes and wellbeing.

Romania's **water resources** present a particular feature: 97.8% of the rivers are collected by the Danube which flows for 1,075 kilometres on Romanian territory or along the national border (out of a total length of 2,860 km). Natural hydrological resources amount to a multi-annual average stock of 128.1 billion cubic metres per year, of which 40.4 billion in interior rivers and 87.7 billion cu m represents the Romanian share of the average annual discharge of the Danube. The volume of underground waters is estimated to be 9.62 billion cubic meters per year. Romania has a considerable potential to supply high-quality mineral water, with an exploitable reserve of approximately 45 million cubic meters per year, of which only 40% is used (more than 2,000 natural springs and underground sources in around 500 locations).

Over time, anthropic activities have affected surface and underground water quality, particularly that of phreatic water. Only 57.5% of the total monitored river length is suitable for use as drinking water through the centralized water distribution network. Out of the total potential resources, only 45.5% are technically usable, mainly

because of contamination at the source. Consequently, usable water resources amount to 2,660 cubic meters per person per year (while the potential supply is 5,930 cu m/cp.year) compared to the European average of 4,000 cu m/cp.year, placing Romania among the countries with relatively scarce usable water resources.

Interior rivers are supplied mostly from snow and rain fall, and less from underground springs, which makes the water supply highly dependent on weather conditions. Water resources are unevenly distributed throughout the country, with large seasonal and year-to-year variations.

In the medium and long run, it will not be possible to cover water demand for human consumption, industry, agriculture and other uses without undertaking large-scale projects to redistribute water resources over time and space (dams, reservoir lakes, inter-basin debit transfers, etc.)

The **climate** is temperate continental displaying significant regional variations (8-12 months per year with above-zero temperatures in the south and coastal areas, compared to 4 months in the higher mountain zones). Heat waves with temperatures rising above 40 degrees C (three such waves in Bucharest in the summer of 2007) and cold spells with temperatures below -30 degrees C, especially in deeper valleys between mountains, are quite frequent. Precipitations, with a multi-annual average of 640 millimetres throughout the country, also display sizeable variations from region to region (1,200-1,400 millimetres in high alpine zones, and 400-500 millimetres in the main farming areas in the southern half of the country) as well as in terms of timing, as the spells of dry weather and drought alternate, sometimes in the course of the same year, with spells of excessive humidity that produce considerable damage (flooding, landslides). The existence of locations where the average annual wind speed exceeds 4 metres per second and extensive areas where the sun shines for more than 2,000 hours per annum indicates a significant potential for the exploitation of those renewable sources of energy.

Romania is one of the European countries that are exposed to high **seismic risk** due to an active tectonic fault (Vrancea), which occasionally causes catastrophic earth tremors with intensities above 7 degrees on the Richter scale.

With regard to the level and type of human intervention, the **land use** in Romania comprises the following categories:

- 61.8% of the total land surface is used for agricultural purposes (about 14.7 million hectares) of which 64% is arable land used for extensive and intensive farming (i.e. 0.45 hectares per capita, which places Romania in the fifth position in Europe), 22.6% is made of grasslands used as natural or semi-natural pastures, 10.4% is formed of semi-natural hayfields used for fodder production, and 3% consists of orchards, vineyards or nurseries;

- 27% of the land surface is under forest cover (circa 6.43 million hectares), of which 3% (circa 200 thousand ha) is listed as primary forest and the rest of 97% as secondary forest or sparsely wooded areas. Taking only ecologically sound forests into account, forest covers just 23% of the national territory. The percentage of forested land in Romania is well below the other European countries having similar

climate conditions (Slovenia 57%, Austria 47%, Bosnia 53%, Slovakia 41%) and about half of the ideal proportion for Romania (40-45%);

- 3.53% (841.8 thousand ha) of the total is covered by surface water (rivers, lakes and ponds), plus the continental shelf of the Black Sea;
- 1.9% (447.5 thousand ha) of the total is formed of areas with very low productive potential or in an advanced stage of degradation;
- 5.77% (1.06 million ha) of the total consists of areas occupied by the physical infrastructure components of the socio-economic system.

As a result of injudicious interventions (industrial pollution, dumping of waste, faulty farming operations, failure to deal with erosion), compaction, deterioration of soil structure and depletion of nutrients have become widespread, leading to lower fertility of farmlands. In 2007, **soil quality** in Romania presented the following picture: 52% low and very low fertility, 20.7% moderate fertility and only 27% high and very high fertility.

Regarding the **ecological structure of the natural capital**, it has to be noted that the current configuration (composition, relative share of various categories of ecosystems, spatial distribution) still holds some 53% of natural and semi-natural ecosystems that, by and large, maintain their multifunctional character and generate on their own a broad range of resources and services that support and supply the population and economic activities.

- 150 types of forest ecosystems that are differentiated according to the predominant tree species or groups of species composing the vegetal cover, the type of soil and humus content, the hydric and ionic regime of the soil, etc.;
- 227 types of forest for which 42 types of herbaceous and subshrub cover were described;
- 364 types of stations;
- A large typology of land ecosystems with herbaceous vegetation (alpine pastures, pastures and hayfields in the highlands, plains and flood-plains);
- A great variety of aquatic ecosystems of which 3,480 rivers (62% permanent); 246 alpine lakes, dam lakes, lakes and ponds in plain areas, flood plains and the Danube Delta; 129 subterranean water bodies, and the marine aquatorium of the Black Sea continental shelf.

Around 45% of the ecological structure of Romania's natural capital is formed at present of mostly mono-functional agrarian ecosystems that were organized, before 1990, for intensive production of vegetal or animal foodstuffs or raw materials for the food and textile industries. In the past 18 years, the majority of large-scale, state-owned or collective enterprises and their physical infrastructure (irrigation systems servicing about 3 million hectares of arable land, farming machinery yards, animal breeding facilities) were dismantled and broken into more than 4 million micro-farms (mostly subsistence farming); some were simply abandoned, destroyed or damaged.

The farming production systems are affected by erosion on some 40% of the area (topsoil loss is estimated at 150 million tonnes per year, of which 1.5 m t of humus),

by landslides, phosphorus and potassium deficiency and by prolonged and frequent droughts. About 2.5 million hectares of land are affected. In recent years, between 10% and 20% (17% in 2006) of all arable land was not cultivated.

In terms of **biodiversity** Romania's accession brought into the European Union a valuable input of plant and animal species, some of them endemic, that had become extinct or rare in other parts of Europe. Although natural vegetation occupies shrinking areas in the plains, tablelands and low hills, there are still wide tracts of land where human intervention has been minimal (mountains and high hills, the Danube Delta, lagoon systems and some river meadows).

The composition of the ecological structure of the natural capital, especially the parts that function as natural or semi-natural systems, displays a relatively high level of biological diversity and animal and plant stocks, some of which are sustainable. Natural or semi-natural ecosystems as well as those where extensive or semi-intensive farming has been practiced contain 3,630 species of plants and 688 species of algae; 105 mammal species including large carnivores; 25 species of reptiles, 19 species of amphibians; 216 fish species; 30,000 insect species; 860 crustaceans species, and 688 species of molluscs. The effort to complete the species inventory and database in order to cover other taxa and to register the biodiversity that exists in farming systems (native plant and animal varieties) will be a long process. This will be largely dependent on the level of professional expertise deployed, the way in which the investigation may be organised and the adequate coverage of all ecosystem types.

The stocks of representative plant and animal species in the structure of various ecosystems are, in fact, the key elements on which the functions of ecosystems and their capacity to generate flows of resources and services actually depend. Also, these are the carriers of the genetic heritage and therefore of the ability of the ecosystems (as components of the natural capital) and of the production technologies of the economic systems to adapt to the changes occurring in the functioning of the climate system. The role of plant and animal species in the structuring, functions and dynamics of the various components of the natural capital and the fact that, during the past decades, the rate of attrition of biological diversity (through the extinction of some species and the rising number of species that are vulnerable, in critical condition or endangered) and, implicitly, of the ecological structure of the natural capital have been acknowledged and are the subject of several international conventions and specific EU Directives. Romania, as a signatory of those agreements and an EU Member State, has the obligation to implement their provisions.

The main factors that have induced **changes in the ecological composition and structure** (and therefore in the carrying and bio-productive capacity of Romania's natural capital) in the past few decades can be traced back to the strategic objectives of socio-economic development and to the means for their implementation over 1960-1989. Those policies caused imbalances and discontinuities that were corrected only in part under the spontaneous impact of market mechanisms in the 1990-2007 period:

- The expansion and intensification of farming production systems through the transformation of some natural or semi-natural ecosystems into arable land and the further alteration of those systems to accommodate the application of intensive

production technologies (20% to 80% of the flood plains of the main rivers and particularly the Danube's were dammed and transformed into intensive farming ecosystems; a large portion of natural grazing grounds covered with steppe vegetation and of wetlands was transformed into arable land; tree belts and forest tracts in the plains and meadows were cut, etc.);

- Rapid industrialization through infrastructure development in large production units, especially in ferrous and non-ferrous metallurgy, chemicals and petrochemicals, and machine-building industries brought about an increased consumption of non-renewable resources (minerals and energy) from local and external sources. This contributed massively to the pollution of air, surface and underground water, and soil. The damage was compounded by direct and indirect pollution resulting from ineffective management or absence of pollution-control installations in large industrial companies, including in the production of cement, chemical fertilizers and pesticides;

- The concentration of the forestry sector in large units favoured the over-exploitation of natural forests and caused ecological imbalances in many hydrographical basins within mountain areas;

- Execution of large-scale engineering projects to create water reservoirs and to prevent flooding;

- Expansion of production capacity for power generation, including large thermo-electric plants burning inferior-quality coal;

- Urban growth and rural-urban migration, accompanied by insufficient measures for waste and wastewater collection and proper treatment;

- Development of transport infrastructure (road, rail, river and maritime transport systems) coupled with continued reliance on depreciated and technically outdated vehicles;

- Expansion of open-pit mining activities and accumulation of mining waste,

- Diversification of sources and increased density of gaseous, liquid and solid emissions resulting in enhanced pollution due to frequent violations of the accepted emission levels in breach of environmental regulations;

- Over-exploitation of non-renewable and renewable natural resources to supply the production processes of the economy;

- Intentional or accidental introduction of alien species in the natural or agrarian ecosystems; for many of those species significant data have been collected indicating their invasive potential and ability to disrupt the natural and semi-natural systems.

The long process of transition to democratic governance and a functional market economy witnessed an uneasy co-existence of political objectives and administrative structures belonging to both the old and the new development cycles: state and private property, central and decentralized administrations, intensive and subsistence farming.

Major consequences for the state of the natural capital resulted from the implementation of sectoral plans and programmes without a coherent overarching strategy that could reflect complex, direct and indirect interdependencies within different timeframes and spatial scales between the socio-economic system and the natural capital. This produced a series of significant qualitative and quantitative

changes in the structure and functions of natural capital components. From the perspective of the principles and objectives of sustainable development, the primary relevant impacts on the current state of the natural capital are:

- An active process of erosion of biological diversity that is apparent in: the extinction of plant species (documented for 74 superior plant species); 1,256 superior plant species were classed as rare, 171 as vulnerable and 39 as endangered; of the 105 mammal species in the native fauna 26 are endangered, 35 are vulnerable and 25 are in serious decline, although 3 species that are rare or extinct in many other EU countries (wolf, brown bear, lynx) have very vigorous stocks; of the 216 species of fish in Romanian waters 11 species are endangered, 10 species are in critical state and 18 are vulnerable.

- The fragmentation of the habitats of many species and the interruption of longitudinal connectivity (through river damming) and lateral connectivity (through the installation of dikes in flood-prone areas, the blockage or constraining the migration routes or the access to feeding and spawning areas of fish species).

- Reduction or elimination of some types of habitats or ecosystems in transit areas (tree belts, young marginal forest, wetlands within the perimeter of large farming units or aggregations of plots) with a considerable negative impact on biodiversity and on the ability of those systems to control diffuse pollution, soil erosion, flash flooding and propagation of flood waters, to ensure the biological control of pest species, and to facilitate the replenishment of aquifers and underground water bodies.

- Large-scale alteration, sometimes above the critical threshold, of the structural configuration of hydrographical basins and waterways, associated with a very significant reduction of the capacity of aquatic systems to absorb the pressure of human activities and with an increased vulnerability of such systems and of the socio-economic systems that depend on them. Torrent activity and the formation of surface runoff have accelerated in many hydrographical basins.

- Excessive simplification of the structure and multifunctional capacity of those ecological formations that are dominated by, or are formed exclusively of intensive farming ecosystems, and their increased dependence on commercial material and energy inputs.

- Destruction and reduction of the bio-productive capacity of the natural capital components in the farming sector.

The totality of structural changes that have occurred over long periods of time, primarily as a result of the diversification and growth of human pressure, and are reflected in the current configuration of the ecological structure of the natural capital in Romania has also led to a reduction of the bio-productive capacity of natural capital and of its ability to support the demand of the national socio-economic system for resources and services. As a result, the Romanian territory has become more vulnerable to geomorphologic, hydrological and climate hazards.

The bio-productive capacity of the natural capital in Romania, considering its current structure, expressed in the equivalent of gross productive area per capita (g ha/cp) is estimated at 2.17 g ha/cp, which amounts to slightly more than half of the estimated potential of 3.5-4 g ha/cp.

This major decline of the bio-productive or support capacity of the natural capital reflects the changes that have occurred and accumulated in all categories of natural capital, especially in the farming and forestry sectors. Presently, the bio-productive capacity of the natural capital is exceeded by the demands of the socio-economic system, which was estimated at 2.45 g ha/cp for the year 2004 and 2.7 g ha /cp for the year 2006.

This conclusion calls attention to the fact that Romania's economic development continues to follow an unsustainable path. The support capacity of the natural capital in Romania has been exceeded, and the gap tends to widen inasmuch as several sectoral programmes pursue objectives conflicting with the principles of sustainable development, generating negative impacts on the structure and support capacity of the natural capital.

2. Physical (man-made) capital

The current condition of Romania is characterised by a belated transition to a functional market economy, compounded by deficient management, against the background of a difficult historical legacy and severe structural distortions that occurred in the past 3-4 decades.

Between 2001 and 2006, Romania's macroeconomic performance improved significantly despite less than favourable international circumstances. The growth of the gross domestic product (GDP) posted an average annual rate of more than 6%, one of the highest in the region, and was accompanied by a sustained and largely successful process of macro-stabilisation. In 2007, the GDP reached a total of about Euro 121.3 billion, three times over the figure for the year 2000. None the less, the GDP per capita calculated at standard purchasing power parity represented only close to 41% of the EU average.

After 1990, the Romanian economy underwent important structural changes, marked by transfers of activity from manufacturing industries and agriculture first to services and then to construction. In the early stages, the restructuring of **manufacturing industries** caused a reduction of their contribution to GDP formation from about 40% in 1990 to about 25% in 1999. After 2000, structural decline was halted and the contribution of industrial activities to the GDP held steady. It is significant that, in 2007, the private sector created 86.6% of the gross value added in industry compared to 68.4% in 2000. The share of the service sector rose from 26.5% of GDP in 1990 to about 50% in 2007. It is noteworthy that some sectors (textiles, footwear, furniture, electrical equipment) underwent deeper structural adjustments, which were made possible due to rapid privatisation, and were able to attain a reasonable level of profitability. Significant progress was also made in the restructuring of the mining sector, building materials production and shipbuilding.

In other industrial sectors, however, a large number of loss-making enterprises were kept alive through government interventions, which sheltered them from the rigours of market discipline and prevented them from adjusting to an increasingly competitive business environment. Delayed restructuring and insistence on unrealistic conditions for privatisation in relation to market requirements, caused a

severe depreciation of assets in many enterprises and wiped off the competitive advantages that they might originally have had. The value of manufacturing equipment that was made redundant as a result of restructuring and privatisation is hard to estimate, but it will suffice to note that, from 2000 to 2007, the Romanian exports of scrap iron averaged 2 million tonnes a year. Until recently, investment trends in the manufacturing industries showed a preference for low-technology, energy-intensive sectors using low and medium skilled labour and producing modest added value.

Prior to 1989, Romania's economy was characterised by a high share of energy-intensive industries and a poor energy-saving culture. The restructuring of the manufacturing sector, which was done more by contraction of activities than by enhanced efficiency, resulted in a 40% reduction of energy intensity between 1990 and 2000.

Romania remains an inefficient user of **energy**, which is produced at high cost due to considerable losses (about 30-35%) in fossil-fuel burning power generation plants, combined with low efficiency at the consumption end (in particular in residential heating); the country continues to occupy the last place in the EU for energy-efficiency indicators.

Structural adjustments in the economy and increased efficiency of resource use have led to a reduction of primary energy intensity from 0.670 tonnes oil equivalent (Toe) in 2000 for each Euro 1000 of the gross domestic product (GDP) at constant 2006 prices to 0.526 Toe/Euro 1000 of GDP in 2006, adjusted to 2005 monetary values. However, energy intensity in Romania remains twice as high as the EU average. The electric energy intensity also showed a favourable trend as it dropped by approximately 10% between 2000 and 2005. The level registered in 2005 (0.491 kWh/Euro (2005)) is still almost twice the EU average. For an gross domestic consumption of primary energy resources of approximately 39 million Toe per annum, it is estimated that the national potential for energy saving, mainly through increased efficiency and reduced losses, amounts to 10 million Toe per annum, i.e. 30-35% of primary resources (20-25% in manufacturing industries, 40-50% in buildings, 35-40% in transport).

The dependence on imports of primary energy resources has gone up to about 30% for natural gas and 35% for coal, while crude oil imports are 1.7 times larger than the national output, a bill that tends to grow further considering the depletion of national reserves and the forecasts for world prices. The domestic production of coal, though still relatively abundant (to last for 15-40 more years), is of low quality and uncompetitive in terms of cost. Domestically produced nuclear fuel is also close to depletion, so that Romania will become a net importer of uranium by 2014 at the latest.

Compared to the total installed capacity for electric power production of 18,300 megawatts (MW), the available supply capacity in 2006 was 14,500 MW, of which 40% from plants burning coal, 31% oil (mainly fuel oil) or natural gas, 25% from hydropower stations and 4% from nuclear reactors. The actual production of electricity was provided by plants burning fossil fuels (61.2%), hydropower stations (29%) and nuclear plants (9.8%, up to 16-18% starting 2008).

The technological equipment and reliability of thermo-electric generation plants and some hydropower stations are still relatively low, many such installations are well past their designed lifetime of about 30 years (70% for thermal and 40% for hydro power plants). The same observation holds true for the technical obsolescence of the high-voltage transmission lines (50%), electricity substations (60%) and main gas pipelines (69%).

Manufacturing industries account for 17.5% of the final energy consumption, other economic activities for 68.6% and residential use for 31.4% (compared to the EU average of 41%). The district heating network is relatively well developed, covering the heating and hot water requirements of about 29% of the households, 55% of those in urban areas (mainly in 85,000 multi-storied buildings housing about 7 million people). Prior to 1990, the principal suppliers used to be large cogeneration units for industrial and urban uses, which provided 40% of the electric power produced in Romania. Compared to the 251 central systems that used to supply thermal energy in 1990, only 104 were still functional in 2007, most of them operating below the threshold of profitability. Energy losses in district heating systems are very high, between 35% and 77% in relation to fuel consumption, depending on the kind of technology they use and the degree of depreciation (15-40% during production, 15-35% during transport and distribution, 10-40% at the final consumer end). It is estimated that simply by resorting to the thermal rehabilitation of the multi-storied housing developments the energy savings could amount to 1.4 million Tce per annum leading, by way of consequence, to a reduction of carbon dioxide emissions of about 4.1 million tonnes a year.

In the field of **transport** Romania holds a key position at the eastern border of the European Union as a transit zone for both the East-West routes (link to Asia through the Black Sea) and North-South (from the Baltic to the Mediterranean). Three of the priority TEN-T axes cross Romania.

Recent Romanian developments confirm the current trends that are common to the EU countries and considered to be alarming: the share of road transport increased from 45.6% in 2001 to 72.4% in 2007 in terms of the distance covered for the shipping of goods, and from 35.2% to 51.4% for passenger traffic (inter-city and international, in passengers/km). In relation to the amounts of cargo (in tonnes) and the number of passengers actually transported, the share of road transport went up in 2007 to 78.8% and 71.6%, respectively, close to the EU average (76.5% in 2005). During the same period of time, the number of road haulage vehicles increased by 24.5% to 545 thousand and the number of automobiles by 25% to 3.6 million, still below the EU average. The precarious condition of road infrastructure (only 228 kilometres of motorways and 21.5 thousand kilometres of rehabilitated national and local roads out of a total of about 80 thousand kilometres in 2006) and the low density of public roads (33.5 kilometres for 100 square km in 2005, compared to the EU average of 110.1 km for 100 sq km in 2003) account for longer distances and more time required for transport from point to point. This leads to excessive fuel consumption, generating nefarious effects on the environment and a large number of road accidents (743 deaths per 1 million passengers), way above the EU average (239).

Taken together, the share of rail, river and maritime transport of goods went down from 50% in 2001 to 25.7% in 2007 (in tonnes/km). Rail cargo traffic decreased by 5.4%, but its market share shrank almost 2 times from 39.6% in 2001 to 19.7% in

2007. Although river shipping grew by 32%, its market share diminished from 6.8% in 2001 to 3.3% in 2007. Considerable shrinking occurred in the market share of maritime cargo shipping from 55.6% in 2000 to 14.3% in 2001 to less than 0.1% in 2007. A contributing factor was the decline of those industries that required shipping of large amounts of bulk cargo, but the main cause was a contraction of more than 50 times of the carrying capacity of the Romanian merchant fleet. Out of a total 322.7 million passengers who travelled in 2007, 71.6% used the services of road transport, 27.3% went by rail, 1.0% by air and only 0.1% used river transport.

Although the total amount of transported goods (in tonnes) rose by 24.4% between 2001 and 2007 in relation to a real GDP growth of 34.8%, which can be seen as a favourable development in light of the EU target to decouple economic growth from transport volumes, the total distances covered saw a two-fold increase. This was almost exclusively due to the larger share of road transport in handling the 32.8% growth in moved cargo at the expense of the other modes of transport, which led to longer travel distances, larger fuel consumption and higher amounts of harmful emissions.

An analysis of resource productivity in activities related to transport, storage and communications from 2001 to 2006 shows that the gross added value rose by 41%, while intermediary consumption (the value of purchased goods and services) grew by 57%, resulting in a 10.4% reduction in the profitable use of resources. It follows that the value added from transport activities was achieved in its entirety at the expense of supplementary resource consumption, which runs counter to the principle of sustainable development.

Romania's **agriculture** is still in decline due to excessive fragmentation of land property (subsistence farming is predominant), poor endowment with machines and equipment, precarious state of rural infrastructure, low amounts of chemical or organic fertilizers and pesticides used, dramatic reduction of irrigated areas, soil degradation, chronic deficit of available financing and the absence of a functional system of farming credit.

The farming area of the country covered roughly 14.7 million hectares in 2006, representing 61.8% of the total land area, of which 64.1% arable land, 1.5% vineyards and grapevine nurseries, 1.4% orchards and fruit tree nurseries, 22.6% pastureland and 10.4% hayfields. In pursuance of landed estate legislation, some 95.3% of the farmland and a large proportion of the forested land were returned to their rightful owners. As a result, the total number of farms was 4,256,152 in 2005, of which 90.65% had an area of less than 5 hectares, 9.02% between 5 and 10 hectares and just 0.33% more than 50 hectares.

Food consumption in Romania is low in meat, dairy products, eggs, fish and some varieties of fruit and vegetables, and higher in cereal-based products compared to the developed European countries. Satisfying the needs of the population for a balanced diet depends on creating sufficient availabilities of food and increasing purchasing power. In 2007, the household expenses on foodstuffs exceeded 70% of disposable income.

The total number of tractors, in 2006, was 174,563 units (of which 13,519 non-functional) averaging 54 hectares of arable land per tractor, i.e. 5 times more land per tractor than in the core countries of the EU, which prevented the timely

execution of operations at the required standards of quality. Only 14.4% of the total number of small and medium enterprises (most of them micro-enterprises) operated in rural areas; they were not yet able to absorb the excess manpower and had a weak impact on the market. Of the total 63,970 kilometres of county and communal roads only 10.8% had been upgraded by 2005.

Due to persistent lapses in the administration of forests, the area under natural and semi-natural forests shrank considerably in particular for valuable tree species: 40% of forests were ecologically de-structured, the proportion of sparse forests increased and the maintenance work for young growth was neglected.

The state of **basic infrastructure** in Romania is still far below the EU average standards and has to fill considerable gaps with regard to most of the principal indicators. The existing safe water supply systems cover the needs of only 65% of the population. The quality of the water supplied by the 1,398 installations for drinking water treatment (most of them operating with outdated and ineffective technologies) is often below the accepted standards for chemical pollutants (10-25% depending on the size of the settlement and available technology). No less than 25% of the public water systems for settlements of between 50 and 5,000 inhabitants supply substandard water in terms of bacteriological infestation, turbidity, and ammonia, nitrates and iron content. About 10% of the public systems for townships with more than 5,000 inhabitants supply substandard water in terms of oxidation, turbidity, taste, smell, and ammonia, nitrates and iron content. Sewerage systems are available to just slightly more than half of the country's population (11.5 million), of whom 10.3 million in urban areas. On the whole, 52% of the total number of people have access both to drinking water and sanitation, 16% only to safe water, but not to sanitation, and 32% to none of the services. Only 33% of the villagers are connected to running water supply systems (compared to 87% in the EU) and only 10% have access to modern sewerage systems.

According to an investigation conducted in 2005, of the total number of wastewater treatment installations, only 37.6% were functioning according to required standards. As a result, almost 71% of the water coming from the principal polluting sources was discharged into natural recipients, especially in rivers, untreated or insufficiently treated. The main sources of used water were electric and thermal power production (51%), public utilities, especially sewerage systems (36%) and other activities (13%).

The total amount of solid waste was 36.7 million tons in 2004 with shares that varied from year to year around 29% for municipal waste and 71% for industrial waste. Only 51.75% of the population had access to garbage collection and disposal services, with a coverage of 90% of the households in urban areas in 2002-2003 (up from 73% in 1998) compared to just 5% in rural areas. The chief method of waste disposal was in landfills and dumps in 252 municipalities (of which only 18 met the EU standards). The largest volume of industrial waste came from mining tailings followed by power generation units and was deposited at 169 sites (51 for hazardous waste, 116 for non-hazardous waste and 2 for inert waste), of which only 15 were up to EU standards with the remaining sites due to be shut down. Just a small portion of waste was being used as secondary raw material for recycling or neutralised through incineration or co-incineration.

From the perspective of **spatial planning**, the inhabited areas of Romania are subject to a process of deterioration through the erosion of traditional features and a belated link-up with the European trends toward sustainable modern development. These processes are historically rooted in tardy urbanisation, continued deep cleavages between urban and rural environments and also between different regions, the existence of a considerable stock of substandard housing, and deficiencies in property records and land use.

The current situation incorporates the long-term effects of social and spatial engineering conducted during the four decades of an over-centralised communist regime through intrusive interventions against the natural capital, expansion of farm land at the expense of viable ecosystems, concentration of investments on giant industrial and urban projects, demolition of historical centres in many cities to make room for nondescript administrative buildings, the draining of resources for the construction of the civic centre in Bucharest, etc.

To all this were added, after 1990, the specific consequences of a protracted and often chaotic process of transition which became apparent, *inter alia*, in the socio-economic decline of certain areas (especially in mono-industrial towns), accelerated physical degradation of collective housing in the 'bedroom townships' that were built in the 1960s to 1980s, irrational location of new construction by encroaching on sites of public interest (parks, green spaces, sports grounds, etc.). The larger cities, which have shown dynamic growth, are confronted with serious problems such as traffic congestion, higher pollution levels, dysfunctional and outdated utilities, emergence of slum belts harbouring communities that live in extreme poverty, and the deterioration of urban landscape.

The deficiencies of the existing legal and regulatory system and its permissive or even abusive interpretation by the local authorities and occasionally also by the courts of law, continue to generate unfavourable effects and to produce irretrievable losses in some cases.

These observations also hold true to a large extent with regard to the conservation and promotion of the national **cultural heritage**. The absence of adequate property records and of a complete inventory of historical and architectural monuments, archaeological sites, built spaces having heritage value and unique landscapes, makes it difficult to establish a rational hierarchy of the interventions needed for their conservation, rehabilitation or, in specific cases, commercial uses such as tourism. According to a survey conducted in 2005, 75% of the 26,900 listed historical monuments and sites were in danger of deterioration or in an advanced stage of degradation.

The limited availability of funds allocated for such interventions is further aggravated by defective planning (working sites abandoned half-way through the process because of financing difficulties, absence of elementary conservation and protection measures, etc.). The responsible authorities at county and municipal level are understaffed and the few trained experts can hardly cope with the amount of tasks and quality requirements for the preservation of the national cultural identity in a European context.

3. Human capital

An accurate evaluation of the state of human capital and of the prevailing trends in the medium-to-long run is of fundamental importance for realistic projections based on the sustainable development model in all its essential components: economic, socio-cultural and environmental. Ultimately, the question that the present Strategy has to answer in a rational way is: with whom and for whom is sustainable development to be achieved in Romania?

For an objective overview of the situation, recent studies (*European Human Capital Index*, Lisbon Council, 2007) take into account elements such as the human capital stock (per capita investment in the education and training of employed population, the composition of human capital in terms of educational levels, and health), its utilization (employment and unemployment rates, share of the population connected to multi-media networks, participation in productive or creative activities), productivity (contribution of human capital relative to the value-added produced, quality of education and training, employability over lifetime, investment in research and development) and demographics (population increase or decline, migration trends, anticipated impact on the labour market).

All of Europe (with the exception of Turkey, a candidate to EU accession) is affected by more or less severe demographic stagnation or decline resulting, among other consequences, in population ageing. In the case of Central European countries that have joined the European Union the situation becomes worrisome because of very low birth rates leading to a progressive decline of the labour force, the exodus of young people and of highly skilled persons, the unsatisfactory level of professional training suited to market demand and acquisition of the skills required for transition to the information society based on knowledge and innovation. It is estimated that there is a real risk for the Central and Eastern European countries to become a thinly populated area with a declining labour force under pressure to support the burden of an ageing population.

Romania is no exception. In 2008, the **demographic situation** is in its nineteenth year of decline. Three elements have impressed their mark on this state of affairs: the economic and social crisis that prevailed during most of this period, the newly acquired right to travel, and the absurd demographic policies pursued through the 60s to the 80s of the past century. Excessively harsh measures regarding the right to contraception and abortion taken from October 1966 by the communist regime that went as far as to 'plan' the level of births, the severe legal restrictions on divorce and the financial penalties imposed on childless persons led to an unusually large increase of birth rate in 1967 and 1968 to a level slightly above the European average. The reverse of this temporary rise came in the form of increased infant mortality that further stayed at high levels, the highest rate of maternal deaths at childbirth in Europe and an alarming proportion of newborn with defects at birth and of abandoned babies.

Consequently, it was hardly surprising that the abrogation of the above-mentioned restrictions in the early days of the new regime led to a sudden drop in the birth rate in 1990-91 and slightly less so in 1992. This process continued and was amplified in the following years in relation to all three components that determine the number and age structure of the population: birth rates, general mortality rates, and external

migration. The process went on also after the year 2000, as the first two components stabilized at levels that reinforced the process of deterioration through the internal dynamics of demography.

With a total population of 21,584,365, Romania had, in 2007, a birth rate of 10.2 per thousand inhabitants and a general mortality rate of 11.7 per thousand. Between 1990 and 2007, Romania's population decreased by about 1.7 million inhabitants, which amounted to a human capital loss of 7.2% without taking into account temporary emigration without change of residence or migration in search of better job opportunities. According to demographic projections, a process of massive depopulation of the country may occur in the following decades, if fertility rates remain within the limits of the past ten years of just 1.3 babies per woman, compared to the reproduction rate of 2.1 that is necessary for generational replacement so that population numbers are maintained at a constant level.

Between 2004 and 2006, the average life expectancy in Romania was of 72.22 years, with notable differences between genders (68.7 years for men, 75.5 years for women) compared to the EU average of about 75 years for men and more than 80 years for women. The age structure of the population reveals an ageing process expressed in the absolute and relative decrease of the young people (0-14 years of age) from 18.3% in 2000 to 15.3% in 2007, and the increase of the elderly population (over 65 years of age) from 13.3% in 2000 to 14.9% in 2007. The average age was 38.9 years in early 2007. Demographic ageing was more evident in rural areas with an average age of 39.7 years and a share of people that were over 65 years old of 17.4%, most of them women. The ratio of economic dependence of non-active persons above 60 per 100 economically active adults (20-59 years of age) was 34, and forecasts indicate a dramatic increase in the following decades.

In 2007, the **labour resources** of Romania (people between 15 and 64 years of age) amounted to 15.05 million persons, with an increase of about 100 thousand over the year 2002. The rate of employment, in 2007, was 58.8%, showing no significant variation compared to the figures for 2002, but still well below the target of 70% set in the Lisbon Strategy for the European Union in its entirety for the year 2010. In terms of quality, however, progress has been significant: the number of employed persons grew by almost 500 thousand in 2007 against 2002, with a corresponding reduction of the people engaged in farming. The share of persons with higher (university) education in total employment grew from 11% in 2002 to more than 14% in 2007, while the number of high school graduates rose from 62.9% in 2002 to about 65% in 2007. This was duly reflected in the steady growth of labour productivity.

At the same time, the imbalances in the labour market have become more severe; there are sectors and professions where workforce shortages are obvious. The labour resources are further diminished because of the current retirement age (slightly over 58 years for women and 63.5 for men), significantly lower than the active age limit. Unemployment among young people continues to be high, about 21%. On the whole, it can be noted that Romania still has underused labour resources to the tune of about 30% of the total, which allows for a partial, short-term solution of the problems caused by labour shortage. Current trends also point to a more effective use of human capital on the labour market.

The figures concerning **migration** (immigration and lawful, permanent emigration) have not been statistically significant after 1995 (around minus 10-15 thousands per year). However, temporary migration for work overseas, predominantly towards other EU countries, was estimated to be around 2 million in the spring of 2008. The emigration of young adults is of particular concern, since their potential decision to become naturalized in the host countries can have a sizable impact on future birth rates and age levels. Decision makers must also take into the account the fact that, as long as considerable disparities in terms of living standards and prospects for professional and personal advancement still exist, the attractiveness of temporary or permanent emigration will remain strong, considering also the needs of the more developed EU countries that are facing similar problems of demographic ageing and decreasing birth rates.

The above arguments demonstrate that demographic factors represent an essential component of the prospects for Romania's sustainable development in the medium-to-long run. Such considerations must be adequately reflected in all national strategies, both thematic and sectoral.

Demographic trends have been an important contributing factor in statistical terms (though not in qualitative ones) in shaping the current situation in Romania's **educational and training system**. Between 2000 and 2006, the number of graduates and that of functioning educational units (in particular at pre-university level) declined continuously, with variations regarding educational levels and locations (urban versus rural) that were linked, year after year, to a decline of school-age population.

The changes that were made to the Education Law of 1995 in 2003 and 2004 significantly improved the legal framework by expanding compulsory education from 8 to 10 grades, introducing some elements of change in the system of pre-university education financing by enhancing the autonomy of educational units and the role of local authorities. Public funding of education rose from 3.6% of the GDP in 2001 to 5.2% in 2007 and to an estimated minimum 6% from 2008 onwards.

Following numerous critical remarks, supported by studies that revealed persistent and, in some aspects, deepening disparities compared to the other EU countries, and the fact that Romania was falling behind relative to the objectives of the Lisbon Strategy, in February 2008, the main parliamentary parties signed, at the initiative of the Romanian Presidency, a National Pact for Education that set agreed strategic targets to remedy the situation in the following period.

The average school-life expectancy was 15.3 years in Romania in 2005, compared to the EU average of 17.6 years. The share of population between 15 and 64 years of age that was enrolled in some form of education was 47.5%. The gross rate of enrolment in the primary and secondary education showed an upward trend as it increased by 4% in the school year 2005/2006 compared to 2002/2003, but a large difference of 14% persisted between urban and rural areas. While in urban areas almost 80% of students completed the compulsory 10-grade cycle by passing the final examination, in rural areas the percentage was below 50%. In 2006, only 2.9% of all active population in rural areas had a graduate degree, compared to 21% in urban areas.

The rate of participation in education of the population between 15 and 24 years of age increased from 37.3% in 1999/2000 to 46.1% in 2003/2004, but the number of dropouts remained alarmingly high at 19% in 2006, much above the average EU level of 15.2% and the target of 10% that is aimed at for 2010 through the implementation of the Lisbon Strategy.

The share of high school graduates in the 20-24 age group was 77.2% in 2006, compared to the EU proposed objective of 85% by 2010. Participation in early, pre-school education was 76.2% in 2006, compared to the EU target of 90% for 2010.

Until 2005 there was no explicit and comprehensive system, harmonized at national level for ensuring education quality. Consequently, the relevance and quality of education and training could be gauged only on the basis of external evaluations. The survey that was carried out in 2006 according to the OECD methodology under the Programme for International Student Assessment (PISA) to evaluate the general performance of 15 year olds placed Romania in the 47th position out of 57 participating countries, with 52.7% of the Romanian students below the level of scientific literacy. The mediocrity of those results is even more worrisome as it represented a lower score relative to the previous PISA survey of the year 2000. The PISA 2006 report revealed large variations between the results obtained by students from different schools and the persistence of inferior results by students from the disadvantaged segments of the population. With regard to the understanding of environmental concerns, less than 40% of the Romanian students were able to identify and explain the existing problems.

The situation seems to be even more serious in university-level education, where no qualitative evaluation was made to reveal the relevance of acquired competencies in relation to the actual requirements of the labour market and the demands of sustainable development. In strictly quantitative terms, the enrolment rate of high-school graduates in higher education expanded from 27.7% in 2000/2001 to 44.8% in 2005/2006. However, the fact that only 11.7% of all adults between 25 and 64 years of age are university graduates (compared to 27.7% in the US, 16.4% in the UK or 15.4% in France) places Romania in an unfavourable position relative to the demands of the knowledge-based society.

At the end of the 2006/2007 academic year, the enrolment was 818.2 thousand students, of whom 552.6 thousand in public higher education institutions and 295.6 thousand in private universities. This marked an increase of 11% compared to the previous year, especially due to registrations for distance-learning courses provided by private universities (15% of the total number of undergraduate students). The share of female students was of 59.8% of the graduates in the public education system and 58% in the private system. The preferences for enrolment continued to favour the humanities and science departments (31.4% in the public sector and 26.3% in the private), economics (23.9% in the public sector and 44.3% in the private), law (24.6% in the private sector) and 28.1% technical studies (in the public sector). It is still worth mentioning that, in relation to the EU objective for 2010 to increase by 15% the enrolment in mathematics, science and technology programmes, Romania registered a rise of 25.9% in 2006.

The participation rate of adults between 25 and 64 years of age in educational programmes was still very low in 2006: 1.3% compared to the EU average of 9.6% or to the EU target of 12.5% for 2010. One additional explanation for the poor participation in continued education is the low level of Internet penetration (23 users

per one thousand people in 2006) and of electronic services offered by public administration (0.7%); in this respect Romania occupies the lowest position among the countries that joined the EU after 2004.

The corroboration of the above-mentioned data on education with the demographic trends suggests that a faster accumulation of human capital can be achieved through enhanced investment aimed at increasing the share of high-school graduates in the 20 to 24 age group. Likewise, an increased rate of university enrolment and a higher proportion of adults participating in life-long learning schemes may compensate the deficit of highly skilled labour resources that are needed in a knowledge-based, competitive and sustainable economy. Moreover, it is imperative to improve the quality of compulsory education.

The Romanian **public health system** is organised as a social insurance service with an aim to provide general, equitable and non-discriminatory access to a package of basic services. In 2005, the National Health Insurance Agency was covering 96.08% of the urban population and 98.25 of the rural population. Measures to modernize the system started in 1998 and the legislation for health sector reform enacted in 2006 set the foundation for improved quality of health services through the decentralization of certain activities, the introduction of a system centred on 'family physicians' (general practitioners) chosen freely by the patients, the development of infrastructure for therapy and preventive medicine, wider access to quality medical services and improved effectiveness of emergency care. Starting 2008, the majority of healthcare institutions are functioning as autonomous units under the administration of local or county authorities.

The share of public expenditure for the healthcare sector grew from 3.6% of the GDP in 2004 to 4% in 2007 and to 4.5% in 2008, of which about 80% is disbursed through the public health insurance system; the allocations from the national budget were also augmented.

Still, the health system is still unprepared to cope with the demands of modern society due to its precarious infrastructure, faulty management and chronic shortage of investment against the background of a combination of persistent socio-economic and environmental problems, with additional pressures from deficient nutrition and stress. Although a downward trend was noted over the past five years, according to the country report on the Millennium Development Goals (2007), Romania continues to hold the lowest position in Europe for infant mortality, with 13.9 for a thousand live births in 2006 (17.1 per thousand in rural areas) and for the incidence of tuberculosis (10 times higher than the EU average).

The ability of the Romanian health infrastructure to provide adequate services in terms of coverage and quality is ranked at less than 50% of the current level of the ten countries that joined the EU in 2004. Although the number of hospital beds is 6.6 per thousand people (higher than the EU average of 6.1), most of them are in insalubrious buildings that are more than 50-100 years old and poorly equipped.

The health system is clearly understaffed in Romania (19.5 medical doctors per ten thousand inhabitants, compared to the EU average of 28-29). The situation is even worse with regard to the paramedical staff: 2.04 licensed nurses per doctor (compared to 2.66 in Hungary and 2.76 in the Czech Republic).

Serious disparities in terms of access to health services persist between regions and social segments, with the low-income groups particularly at risk. While more than 40% of the population lives in rural areas, less than 11% of the medical doctors work in such areas – five times less than in urban centres. Recent studies confirm the general deterioration of the state of mental and emotional health compared to average European levels, a rise in the abuse of, and dependence on psycho-active substances and in the instances of aggressive and violent behaviour, also among minors. The general ageing of the population adds to the pressures on the already fragile health system.

4. Social capital

The optimal functioning of democratic society assumes not only the existence of an adequate legal base and an effective institutional structure, but also the development of a participative culture that relies on trust and cooperation. From the classic definition of social capital as a «societal good that unites humans and enables them to pursue common goals more effectively», it results that the establishment of trust among the members of society rests on the fulfilment of obligations and on reciprocity. In modern society, the collaboration between public and private entities in the pursuit of the fundamental interests and rights of the citizenry is supported by networks of voluntary and non-governmental organisations, professional associations, charities, citizens' initiatives, etc. acting (autonomously or in association, directly or through the mass-media) in relation with the state powers (legislative, executive and judicial) as guarantors of democratic values and practices.

In the period between the two world wars, there was some movement towards the establishment of professional associations and other civil society formations predominantly oriented towards providing aid and charitable activities or social assistance on a voluntary basis. During the communist regime, such forms of association (with the exception of strictly professional ones) were constantly discouraged, and the existing ones were subject of intense political and ideological pressures.

Starting as early as 1990, at the very beginning of transition towards pluralistic democracy and a functional market economy, the number of non-governmental organisations grew rapidly and their profiles became more diversified. In the initial phase, and in some cases further on, these organisations enjoyed administrative and logistic support from similar organisations abroad, particularly from the European Union, the US, Canada, Japan, etc. Romanian branches of international non-governmental organisations were established with a focus on human rights, transparency of public affairs, rightful access to information, environmental conservation and promotion of sustainable development.

The right to free association is enshrined in the Romanian Constitution and is object of no less than 15 special laws and other regulations in the form of government ordinances and decisions.

The procedures for the establishment, registration, organisation and operation of private law non-profit entities are regulated by law. The status of such entities as legal persons is awarded by court order and is recorded in the Registry of

Associations and Foundations. At national level, the Registry is administered by the Ministry of Justice. The procedures for the recognition in Romania of foreign non-profit legal entities are regulated by law in a non-discriminatory fashion.

The legal status of political parties, business associations, labour unions, religious denominations or associations, youth and women's associations, and the representative structures of professional communities (such as the Medical Doctors' League, the Order of Architects, etc.) is regulated by special laws.

For the purpose of implementing the objectives of the National Sustainable Development Strategy, the Law on Local Public Administration is of particular interest since it regulates the right of territorial administrative units to work together within the limits of their decision-making and executive competencies under the law, by forming associations for inter-community development with the status of private legal entities of public interest in order to develop joint projects at regional or local level or to render public services jointly. Such forms of association among local administration authorities are already in existence and they have proved their ability to come up with initiatives and take action: Association of Communes, Association of Towns, Association of Municipalities, National Union of County Councils, Federation of Local Authorities.

In Romania's specific case it is most relevant to note that the methodology for the implementation of Local Agenda for the 21st century (LA 21) was successfully applied with the assistance of the United Nations Development Programme in more than 40 townships and areas up to county level. The process actively involved all local stakeholders including civil society organisations and citizens initiatives, in the preparation and promotion of sustainable development plans and projects that commanded the support of entire communities

Most ministries and other central government agencies, as well as local administration authorities have established special offices to deal with non-governmental organisations and other associative structures. Significant progress has been made toward engaging in joint projects with civil society organisations, particularly for the provision of social services or environment protection and conservation. The practice of partially subsidizing such activities that are performed in partnership with non-governmental organisations from the central or local budgets is still in its infancy, but it already shows constant growth both in terms of numbers and in terms of actual impact on the communities. Thus, only in the area of social assistance, the number of associations or foundations that were found to be eligible for subsidised programmes increased between 1998 and 2008 from 32 to 116, and that of voluntary social assistance units from 60 to 307.

As a result of initiatives taken by individual non-governmental organisations or coalitions of such organisations, some controversial projects were reconsidered with regard to the mining industry, the relocation of industrial and infrastructure projects, spatial planning and urban development, ecological rehabilitation of polluted sites, etc. However, such actions remain sporadic, showing a limited ability to mobilize and sustain public support over time; consequently, they have had only a small impact on the decision-making process so far.

Although the autonomy of civil society organisations is, by and large, acknowledged and respected, instances of patronage in their relations with the authorities and political actors are still encountered, particularly (but not exclusively) at local level.

Studies and opinion polls reveal a relatively low level, compared to the other EU Member States, of citizens' participation in associative structures and of communication and collaboration among various civil society organisations. One of the causes that have been identified so far is the limited capacity to fund citizens' initiatives or viable projects coming from non-governmental organisations due to legislative deficiencies concerning sponsorship and incentives for the business community to engage in such projects.

In step with the advancing maturity of civil action in support of the kind of governance that builds its legitimacy on accountability and transparency, and considering the crucial importance of public support for the principles and practice of sustainable development, social solidarity and cohesion in Romania will rely on:

- The transparency of decision-making by the public administration;
- Permanent communication and free access to information of public interest;
- Reliable partnership for the implementation of agreed common objectives;
- Optimal use of available resources;
- Non-discrimination of non-governmental organisations relative to other partners in the community;
- Respect for the values of non-governmental organisations and their mission.

In order to ensure the effective, transparent and influential involvement of the civil society in the implementation and monitoring of the National Sustainable Development Strategy, it is recommended to establish, by law, under the aegis of the Romanian Academy, a Consultative Council for Sustainable Development with a Permanent Secretariat, totally autonomous from the executive branch of government, but funded from the state budget according to the established practice in most of the EU Member States. As an innovation to the current EU practice, it is envisaged that the Council should be legally entitled to submit an annual report to Parliament, complementary to the report to be presented by the Government and containing its own evaluations and recommendations for further action.

PART III. OBJECTIVES AND CORRESPONDING ACTIONS FOR 2013, 2020 AND 2030, ASSOCIATED WITH THE STRATEGIC ORIENTATIONS OF THE EUROPEAN UNION

The structure of chapters and sub-chapters in this section follow closely the logic of the revised EU SDS (2006). The specific Romanian issues and concerns, which are not covered in the EU priority guidelines, are dealt with separately in Part IV.

1. Key challenges

1.1. Climate change and clean energy

Overall Objective of the EU SDS: To limit climate change and its costs and negative effects to society and the environment

Romania's obligations as a Member State of the European Union derive from the objectives that were agreed at the Spring session of the European Council on 9 March 2007: to reduce until 2020 the CO₂ emissions by 20% compared to the levels of 1990, to increase by 20%, within that timeframe, the share of renewable energy in the overall energy consumption and to enhance energy efficiency by 20%. The focus on renewables is the main objective of the legislative package on climate change and renewable energy resources that the European Commission submitted on 23 January 2008. The targets envisaged and the deadlines for their completion are, in some respects, more demanding than those set in the renewed Sustainable Development Strategy of June 2006.

The new energy policy of the European Union that was launched in 2007 describes energy as an essential ingredient for the development of the Union. It equally poses a major challenge because of the impact of the energy sector on climate change, the increasing dependence of the EU on energy imports, and the upward trend of energy prices. It is now recognized that the EU is increasingly vulnerable to instability in the international energy markets and to the concentration of ownership over hydrocarbon resources.

The internal EU energy market seeks to promote competitive and fair pricing, to encourage energy savings and to bring more investment into the energy sector.

Horizon 2013. National Objective: To meet the short and medium-term energy demand and to create the prerequisites for national energy security in the long run, responding to the requirements of a modern market economy for safety and competitiveness; to fulfil the obligations regarding the mitigation of climate change and to observe the principles of sustainable development.

For Romania, as a Member State of the European Union, it is particularly important to be involved in the implementation of the four major medium to long-term objectives of the energy policy framework of the Union: to enhance the security of energy supply and of critical infrastructure, to increase competitiveness in the energy sector, to reduce its impact on the environment and to achieve the integration of the regional energy market.

The main **strategic guidelines** of the Romanian energy policy, which have been set in conformity with the agreed policies and objectives of the European Union, are:

- **Energy security:** To maintain national sovereignty over primary energy resources and national choices in the energy sector; to heighten the reliability of energy supply and to maintain an acceptable degree of dependence on imports through the diversification of external sources, national energy resources, national and regional energy transport routes and networks; regional cooperation for the protection of critical energy infrastructure;

- **Sustainable energy development:** To improve energy efficiency along the whole chain of resource-production-transport-distribution-consumption through the optimization of production and distribution processes and the reduction of total consumption of primary energy relative to the value of products and services; to increase the share of energy produced from renewable sources in total consumption and in power generation; to use non-renewable primary resources rationally and efficiently and to reduce progressively their share in final consumption; to promote the production of heat and electric power in highly efficient co-generation plants; to utilize secondary energy resources; to support research, development and innovation in the energy sector with an emphasis on improved energy and environmental efficiency; to mitigate the negative impact of the energy sector on the environment and to live up to the commitments to reduce the emissions of greenhouse gases and other pollutants;

- **Competitiveness:** To develop and further improve competitive markets for electricity, natural gas, oil, uranium, coal, and energy sector services; to promote renewable resources through the use of Green Certificates in the context of regional integration; to enhance participation in the EU emission trading scheme for greenhouse gases; to liberalize energy transit and ensure the uninterrupted and non-discriminatory access of market actors to transport and distribution networks and to international interconnections; to develop the infrastructure of the energy sector; to continue the process of restructuring and privatization in the power, heating and natural gas sectors; to continue the restructuring of brown coal mining and use in order to increase profitability and improve access to capital markets; to create a regional energy exchange and to ensure Romania's continued involvement in the consolidation of energy markets at European level.

In order to **limit the impact of the energy sector on climate change**, the emissions of greenhouse gases will be reduced in accordance with the targets set both for the sectors that are regulated by the Directive 2003/87/EC and for the sectors that are not covered by it. Romania will participate actively in the EU process of setting agreed objectives for the post-2012 implementation period of the Kyoto Protocol to the UN Framework Convention on Climate Change and in the negotiation of comprehensive international agreements in that field.

Primary energy intensity will decrease in 2013 to 0.34 tonnes oil equivalent (Toe) per 1,000 Euro-2005 (compared to 0.511 Toe/1,000 Euro in 2006), while final energy intensity will go down to 0.23 Toe/1,000 Euro-2005. According to the national strategy for energy efficiency, energy intensity will be reduced at the end of 2015 by between 50% (the optimistic scenario) and 30% (the pessimistic scenario) relative to 2005 levels, assuming an average annual rate of GDP growth of 5.4% for 2003-2015.

Through coherent measures to increase **energy efficiency**, final energy consumption will be reduced by 13.5% in between 2008 and 2016 compared to the average consumption levels between 2001 and 2005, in conformity with the first National Action Plan for Energy Efficiency 2007-2010. This objective will be accomplished through legislative and regulatory measures, voluntary agreements, expanded energy-saving services, specialized financial instruments and cooperative schemes.

National policies together with regional and local energy sector strategies will promote **the modernization of combined heat and power systems** through the use of highly efficient technologies. The rehabilitation of heating systems for at least 25% of the multi-storeyed buildings will result in significant energy savings, reduction of carbon emissions and affordable energy bills for consumers. A new social assistance system, combining a streamlined approach with targeted interventions will be introduced to provide the necessary framework for coordination among the relevant authorities and to reform the current system of subsidies and support payments to the most vulnerable consumers. Particular attention will be given to the energy sector in rural areas with an aim to introducing modern, eco-efficient heating systems and providing power supply at bearable costs.

Selective support of investments will encourage the commissioning of new power generation capacity using **clean energy technologies**, resulting in a considerable reduction of greenhouse and other polluting gas emissions and improvement of the operational safety of the national energy system.

With regard to **renewable energy sources**, under the terms of the legislative package that the European Commission presented on 23 January 2008, Romania has the obligation to prepare and to present to the European Commission, by 31 March 2010, a National Action Plan including concrete targets for the share of renewable energy sources used for transport, power generation, heating and cooling, along with the corresponding measures to meet those targets. While the target for the European Union as a whole is to make sure that 20% of the total energy consumption comes from renewable sources in 2020, Romania pursues a much more ambitious objective: 33% by 2010. It is envisaged that, by 2010, 12% of the gross domestic energy consumption will be supplied from renewable sources. The implementation of the 'green certificates' scheme will increase the share of power

generated from renewable sources to 9-10% of the final consumption of electricity, related to the actual amount of electric energy sold to consumers, considering that the centralised EU Emission Trading Scheme has been functional since 2005. Current legislation also provides for the suppliers' obligation to acquire a number of emission permits that is equal to the ratio between the value of mandatory quota and the amount of electric power supplied to the final consumers on a yearly basis.

Concrete measures will be taken to improve the **legal and institutional frameworks** in the domain of energy and climate change as required for the implementation of the regulatory package proposed by the European Commission.

Horizon 2020. National Objective: To ensure the efficient and safe operation of the national energy system, to attain the current average levels of energy intensity and energy efficiency of the EU, and, to fulfil Romania's obligations in accordance with the EU targets to limit and mitigate the effects of climate change.

In line with the EC proposals of 23 January 2008, the targets are to reduce the emissions of greenhouse gases by +19% in 2020 compared to the figures for 2005 in the sectors that are not regulated by the EC Directive of 2003 and by -21% in the sectors that are regulated by that Directive, in relation to the national plan for the allocation of greenhouse gases emissions that Romania submitted in 2007.

In conformity with the legislative package currently under consideration by the European Parliament and the EU Council concerning the promotion of energy from renewable resources, as proposed by the European Commission on 23 January 2008, Romania will increase the share of renewable resources (solar, wind, hydro, geothermal, biogas etc.) in the final energy consumption from 17.8% in 2005 to 24% in 2020 (compared to the EU average of 8.5% in 2005, with the objective to reach 20% in 2020). Romania proposes to bring the share of electric power produced from renewable sources to 38% of the total in 2020.

Enhanced energy efficiency will bring about a reduction in the consumption of primary energy by 20% and that of final energy consumption by 18% compared to the average consumption of 2001-2005.

Primary energy intensity will go down to 0.26 tonnes oil equivalent per 1,000 Euro-2005 (close to the EU average of 2006), and final energy intensity will decrease to 0.17 Toe/1,000 Euro-2005 (below the EU average of 2006).

The level of utilization of biofuels and other renewable fuels in transport will amount to at least 10%, reckoned on the basis of the energy content of all types of petrol and diesel fuels now in use, while abiding by sustainability criteria for those products, with an intermediary target of 5.75% in 2010.

The rehabilitation of approximately 35% of the multi-storeyed residential, administrative and commercial buildings will continue with a view to improving their energy efficiency.

New power generation units will be commissioned and connected to the national grid in order to cover the projected demand, including two new reactors at the nuclear power plant in Cernavoda and the completion of several hydropower stations.

Horizon 2030. National Objective: To align Romania's performance to the EU average in terms of energy and climate change indicators.

Romania has the capacity to reduce greenhouse gases emissions by up to 40% compared to the 1989 levels.

Improved energy efficiency will bring about a reduction of the primary energy consumption by 30% and of the final energy consumption by 26% compared to the average consumption levels between 2001 and 2005. The use of efficient light bulbs will be generalized.

The use of clean technologies for power and heat production will be expanded in generating plants using energy resources and technologies producing very low levels of carbon emissions and provided with facilities for the capture and underground storage or carbon dioxide.

The construction of hydropower stations and water engineering works will continue in order to turn to good account the existing, but yet unexploited, 15-20% potential for power generation.

Two new, large-capacity nuclear power units will be built to meet the expected consumption demand with technologies that do not produce carbon dioxide emissions.

The thermal rehabilitation of the remaining 40% of multi-storeyed buildings will be completed and projects will be developed for passive buildings and residential developments with very low energy consumption (15-50 kWh per square metre per year).

1.2. Sustainable transport

Overall Objective of the EU-SDS: To ensure that transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts on the economy, society and the environment.

Romania's development plans give priority to the transport sector because of its interdependence with the other branches of the national economy, the value of its services for the population and its considerable impact on the environment.

The development of transport aims to facilitate the inclusion of Romania's urban systems in the European network by improving in particular the rail and air services having mainly European destinations. The relative indicator of accessibility (combining services, transhipments, prices and duration of travel) will be gradually aligned to the performance of European metropolitan areas by 2020.

The connections between cities will be improved by supporting the development of public inter-city transport and better coordination of traffic management; minimal general affordability of public transport services will be ensured to all citizens, with

special regard to the vulnerable groups (children, senior citizens, persons with reduced mobility). The accessibility of public transport in areas with low population density or in dispersed locations will be ensured at a reasonable minimal level.

Travel safety will be improved, with an estimated 50% reduction in traffic fatalities by 2030 compared to 1998.

The protection of transport infrastructure will apply a 'zero risk' policy and the perceived risks will be continuously re-evaluated for all transport modes.

In order to promote environment-friendly behaviour the global impact of pollutant emissions from transport will be gradually reduced with a view to meeting the targets that were assigned to Romania concerning the national emissions ceilings. The current overshooting of accepted levels for air quality in cities will be reduced by 5% in 2015 and further on by 15% for those emissions where transport is the main source of pollution.

Considering the precarious state of the infrastructure and available means of transport and the unfavourable trends concerning resource productivity in recent years (see Part II, Chapter 2), this sector is set to receive an important portion (60%) of the EU funding under the thematic priorities.

The negative ratio between the demand for transport services (particularly by road) and gross domestic product (GDP) growth is currently four times the EU average; the following means are envisaged to reduce it in the future:

- Gradual changes in the structure of the economy by reducing the share of those sectors (mining, iron and steel, petrochemicals) that require haulage of large amounts of materials and are massive consumers of energy and raising the share of those sectors that produce higher value added with a lower consumption of energy and materials (services, processing industries, etc.);
- Changes in the structure of electric power generation following expanded use of renewable energy resources (wind, solar, biomass, geothermal, micro-hydro), increased nuclear power production (which was doubled in 2008, with the prospect to build two more units in the next 7-9 years) and a lower share of oil and coal-fired generation plants, which require haulage of large amounts of fuel, often over large distances;
- Reduction of specific material and energy consumption in all the productive sectors of the economy resulting in lower transport requirements through programmes designed to encourage technical and technological innovation and to increase competitiveness;
- Gradual changes in production, storage and distribution processes leading to a more balanced demand for freight and passenger transport;
- Gradual adjustment of transport structure, first by reducing the rate of growth of road transport and, in a subsequent phase, by directing the flow of freight and passengers towards alternative modes of transport;
- Stabilizing the demand for private transport and the artificial growth of the need for individual mobility within and between urban centres through balanced urban an spatial planning and through improved public passenger transport services.

Horizon 2013. National Objective: To promote in Romania a transport system that would facilitate the safe, fast and efficient movement of persons and goods nationally and internationally, in accordance with European Union standards.

Although the estimation of the future transport demand (in tonnes/kilometre) in relation to GDP growth is still highly uncertain, it can be expected that a stabilization of demand will not be possible in the 2007-2013 period. The trend toward a negative coupling of transport demand and GDP growth that prevailed between 2001 and 2005 is likely to continue beyond 2013.

Regarding **resource productivity**, the unfavourable trend that was apparent in 2001 to 2005 (when the growth of transport services in terms of value was achieved entirely at the expense of additional consumption of resources) will even out following the gradual implementation of a specific set of measures:

- Modernization of infrastructure for road, rail, water and air transport, which will make it possible to increase the average speed and fluidity of traffic, to broaden and diversify the range of options for freight transport and the quality of services for passenger travel, and to optimize the use of means of transport while enhancing safety standards and competitiveness;
- Equal treatment of all transport systems in terms of access to financing for the upgrading, repair and maintenance of infrastructure and means of transport (particularly rail transport);
- Accelerated renewal of the stock of vehicles by decommissioning those that are physically depreciated or obsolete and replacing them with modern equipment that fits the usage and technical standards of the EU in terms of economic, social and environmental efficiency;
- Increasing the speed of rail traffic to 140-160 km/h, upgrading the rolling stock and providing opportunities for a balanced transfer of part of road transport to the railway system, with the target to reach a market share of 15% by 2015 (26% for passenger transport);
- Gradual development of shipping on interior waterways through upgrading and expansion of port infrastructure, providing continuous access for vessels up to 2,000 tdw on the Romanian sector of the Danube and fluent navigation along the whole length of the Rhine-Main-Danube corridor (involving 8 EU Member States). The promotion of transport on interior waterways will have significant socio-economic effects by enhancing the competitiveness of river transport relative to other modes; it is likely to take over a considerable portion of the cargo currently hauled by road, to offer competitive alternatives in the 'door-to-door' logistical chain and to help reduce environmental impacts;
- Re-launching maritime transport through the Romanian Black Sea and Danube ports by expanding their functional structures to serve as logistical centres integrated in the inter-modal transport system; providing a balanced framework for fair competition among ports;
- Implementation of EU standards regarding inter-modal or combined transport, consolidation of inter-modality by developing logistical platforms in the port of Constanta and the Danube ports, multi-modal cargo platforms at the International Airport Henri Coanda (Bucharest, Otopeni) and other airports specializing in commercial cargo, and also increased access to railroad services in ports.

- Step-by-step attainment of the required performance levels on the air transport market regarding inter-operability, standards and regulations, safety rules, flight security and environmental protection. .

These measures will lead to significant reductions in energy consumption and pollutant emissions, with beneficial effects on the costs and competitiveness over the entire national transport system.

The Sectoral Operational Programme «Transport», which was approved on 12 July 2007, provides a coherent vision for future developments and sets the priorities, objectives and procedures for the allocation of structural and cohesion funds for the **development of the transport sector over the 2007-2013 period**, with particular focus on the following objectives:

- Development and modernization of the priority trans-European transport axes (TEN-T) in the territory of Romania in order to achieve a sustainable transport system, integrated with the EU networks. The objective is to improve territorial cohesion between Romania and the other EU Member States through a significant reduction of travel time, improved safety and quality of transport services for persons and goods to and from the main national and EU destinations, and a reduction of adverse environmental impacts.
- Upgrading and development of the national transport infrastructure, other than the TEN-T priority axes, with an aim to developing a sustainable national transport system.
- Modernization of the transport sector to improve performance in terms of environmental protection, human health and traffic safety.

The Operational Programme 'Transport' 2007-2013 represents one of the ways to ensure the implementation of the objectives established by law as early as 2003 to design, develop and upgrade the national and European transport network in keeping with Romania's commitments in this sector and with the National Strategy for Sustainable Transport for 2007-2013, with projections to 2020 and 2030 (drafted in 2008).

In order **to minimize the negative environmental impacts of transport** a special strategy for environmental protection in the transport sector will be developed in correlation with the new EU policies, including the maritime dimension, with particular focus on such indicators as admissible levels of pollution, methods means for the monitoring and control of pollutant emissions, greenhouse gases and noise levels caused by transport activities. The mapping of noise intensity produced by transport in large urban areas and on road networks with high-intensity traffic will make it possible to establish the required measures for the protection of the population and the environment. New regulations will be developed on the basis of the best practice in the other EU countries for the taxation of infrastructure use and means of transport. Financial and/or fiscal incentives (such as reductions of, or exemption from excise tax, subsidies for research and development) will be used to encourage more extensive use of bio-fuels and alternative fuels for transport.

Horizon 2020. National Objective: To attain the current EU average level of economic, social and environmental efficiency of transport and to achieve substantial progress in the development of transport infrastructure.

Technical and financial conditions will be ensured to continue the projects for infrastructure upgrading and developments that started or were under way during the 2007-2013 period. Work will start on those projects for which the blueprints are ready, especially those that are scheduled for completion in the 2014-2020 period. Particular attention will be given to the maintenance of the upgraded or rehabilitated infrastructure in keeping with the planned standards and to rehabilitation of damaged segments through maintenance and repairs.

The projects included in the Operational Programme 2007-2013 for the southern branch of the pan-European road and rail Corridor IV will be fully financed and completed. The second stage of upgrading for the national networks, other than those located on the TEN-T routes, will also be completed.

Studies and blueprints will be finalized in order to begin the upgrading of transport infrastructure (road and rail) along the pan-European Corridor IX: from the border with the Republic of Moldova to the border with Bulgaria, providing links to Corridors IV and VII (the Danube).

Studies will be launched for the infrastructure network along the corridors that are to be established following the revision of the TEN-T guidelines for 2020 to 2030.

Romania will undertake further action to implement the programmes for the modernization, development and maintenance, according to technical and functional standards, of those transport networks that were not included in the Sectoral Operational Programme 2007-2013 for which financial resources are secured.

The liberalization of the domestic transport market will be completed.

Following the measures undertaken in the first reference period (2008-2013), the demand for transport (in tonnes/km relative to GDP) could be reduced in the 2013-2020 period so as to reach the EU average level by 2020.

Horizon 2030. National Objective: To get close to the average EU level of 2030 in relation to all the basic sustainability indicators for transport activities.

It is foreseen that, gradually, after the year 2020, most of projects for upgrading and development, in particular those to be included in the 2018-2024 programming period, will be completed. The ensuing priorities will concentrate on meeting, on the newly upgraded and developed networks, the EU standards for the services rendered on the TEN-T main network for heavy traffic (naturally, there will be differences between forecasts and actual results, so that targets may be revised corrected in a timely manner).

The coordinated traffic management system will be expanded, and new fiscal instruments and tolls for infrastructure use by various groups of users will be introduced.

1.3. Sustainable consumption and production

Overall EU-SDS objective: To promote sustainable consumption and production patterns.

A realistic approach to this thematic area requires the evaluation of the production and consumption pattern that has characterised recent developments in the Romanian economy, with a view to finding solutions to reduce the consumption of material resources per unit of gross value added and to decouple the dynamic of the gross domestic product (GDP) from that of the aggregated consumption of material and energy resources and its negative impact on the environment.

With reference to the figures for the year 2000 (=100%), the production of goods and services grew by 62.3% between 2001 and 2007, while the gross value added increased by only 52,1% as a result of a 71.4% increase of intermediary consumption (the value of goods and services purchased and consumed, excluding fixed assets). The corroboration of these data indicates that, during that period of time, the dynamic of value added was inferior to that of the output, despite favourable trends in labour productivity. Actually, production growth was achieved by resorting to higher resource consumption. The ratio between the GDP dynamic and the growth of intermediary consumption was a negative one throughout those years and even tended to deteriorate (95.9% in 2001, 99.4 % in 2002, 96.5% in 2003, 99.3% in 2004, 99.5% in 2005, 98.2% in 2006 and 99.4% in 2007).

It results from the above-quoted figures that the Romanian development pattern of the past five years (which also applies to previous periods) was based on a model that runs against the principles of sustainable development that are being promoted by the European Union of which Romania is now a part. The continuation of this trend threatens the long-term sustainability of economic growth due to an excessive and irrational use of resources, with negative consequences on the state of the natural capital and on social and human development in a competitive environment.

Structural imbalances persist in Romania with regard to food consumption, along with quality deficiencies in the production and sale of foodstuffs. At the same time, the farming sector fails to ensure the access of the entire population to rational nutrition, despite the availability of favourable natural conditions enabling it to cover at least the necessary requirements for domestic consumption. Prices for some foodstuffs remain inaccessible to vulnerable population groups. Farm production for own consumption is still high, particularly in rural areas, while basic foodstuffs have to be imported to supply the urban areas.

The situation needs to be addressed through adequate policies and instruments, in accordance with market principles and relevant EU regulations designed to change the consumption-oriented mentality and the propensity for short-term profit maximisation. To this end, an in-depth analysis of the factors behind the current situation needs to be completed in the near future in order to establish the suitable economic policies toward a significant growth of resource productivity.

Horizon 2013. National Objective: To achieve eco-efficient management of resource consumption and to maximize resource productivity by promoting a pattern of consumption and production that makes sustainable economic

growth possible and brings Romania gradually closer to the average performance of the other EU countries.

Structural adjustment of the economy is the main way of enhancing resource productivity by increasing the relative share of the products, processes and activities that use a smaller amount of energy and material resources to achieve higher value added.

In that respect, the most resource-efficient segment of the Romanian economy is the **service sector**. With reference to the year 2005, total resource productivity in the service sector has been substantially higher than in the manufacturing industries or construction. Although the structure and quality of the services in Romania is not yet adapted to the demands of modern economy, this sector is the only one where the value added has exceeded resource consumption (by 39.3%).

The potential for the development and upgrading of the service sector, with its favourable financial, economic, social and environmental effects, is illustrated by a comparison to the situation in other EU Member States. The contribution of the Romanian service sector to the gross domestic product is approximately 50%, way behind the performance of Bulgaria's (59%), Poland and Hungary (61-65%), Slovakia, Sweden, Austria, Germany (67-69%), Italy, Portugal, the United Kingdom, Greece, The Netherlands (71-74%) and France (77%). The EU average is around 70% of GDP. For example, the per capita revenue from tourism in Romania, in 2006, was 3 to 8 times lower than in Poland, Bulgaria, Hungary and the Czech Republic. Moreover, in the same year 2006, Romanian tourism showed a deficit (ratio between income and spending) of Euro 1 million, while Bulgaria produced a surplus of Euro 891 million.

The development, specialization and improved quality of services do not represent ultimate goals by themselves: they are only a specific instrument used by modern economies to increase efficiency and competitiveness in all the other sectors of the economy and society. The contribution of research, development and innovation activities, information technologies, transport and communications, continuous training and professional improvement of the labour force, expansion of financial intermediation and other services does not inhibit the development of directly productive sectors (manufacturing industries, construction, agriculture, forestry, fishing and aquaculture, etc.) but rather enhances their potential for modernization and improved resource efficiency.

The period between 2008 and 2013 will see more incentives for the development of certain categories of services that can have a major positive impact in terms of increased resource productivity and eco-efficiency, with a multiplier effect in other sectors of the economy: development of technologies that help reduce energy and physical resource consumption for products and processes, consultancy and expertise for the eco-efficient utilization of the funding available for upgrading infrastructure and production processes, marketing operations to increase the efficiency of sales and purchases, including green public procurement, and optimal placement of Romanian goods and services in the most favourable niche markets.

Further measures will encourage a significant improvement of the quality of services supplied on the EU Single Market as a persuasive argument for reinforcing the perception of Romania's competitiveness. The development of services in rural areas

(commercial and financial services, consultancy for farming and public works, transport and agro-tourism, human health and veterinary services, etc.) will make it possible to tap additional sources for GDP growth by providing alternative employment opportunities to people currently engaged in farming (who represent 30.5% of the active population, but contribute less than 9% to the GDP). This will also enhance the disposable income of rural residents and may help reduce the share of subsistence agriculture in favour of commercially viable farming.

Effective resource use depends greatly on the developments in **intra-sector structures**. Industrial activities, the sector having the highest consumption of resources, have undergone major structural adjustments, particularly between 2000 and 2007.

In the **mining sector**, excavation of metal-bearing ores was abandoned in sites that had low useful content and high operation costs, which no longer justified the allocation of state subsidies. The subsidies for brown coal and uranium ore mining have been gradually phased out and will be completely discontinued by 2010.

In the **electric power industry**, production increase (13.9%) was below overall industrial output growth (41.3%) as a result of decreasing energy intensity. However, resource productivity went down because of increased intermediary consumption (15.6%) and lower value added. The growing share of hydro and nuclear power generation, technological upgrading of thermoelectric plants and higher input from renewable sources that are foreseen for the following period will reverse this trend.

The **manufacturing industries** tended to show a higher dynamic of growth (51.1% in 2007 relative to 2000) compared to mining (3.1%). Resource productivity improved thanks to increased production of road vehicles (188.8%), electrical machinery and equipment (59.6%), furniture (77%) and food industry (77%), where the growth of gross value added exceeded resource consumption. It is estimated that the positive trends in these sub-sectors will continue in the following years.

Between 2008 and 2013 and thereafter, the **industrial policy** will pursue both the strategic objectives and specific targets of the national economy and the EU trends, in line with the tenets of sustainable development. The main targets for the development of various industrial sectors in the medium term are:

- To maintain and develop an attractive business environment that can enhance investment flows, stimulate technological upgrading and encourage continued renewal of processes and products;
- To support research, development and innovation in close connection with the actual needs of industry and market demand in order to obtain competitive advantages and to reduce the technology and productivity gaps relative to the more advanced EU countries;
- To promote the use of information and communication technologies (ICT) at all stages, from design to production to marketing, including business administration;
- To develop competitive market practices under the rules of the EU Single Market and to avoid the emergence of cartels or monopolistic attempts at exclusive control of the market;

- To refine sectoral assistance and upgrade the role of public authorities in the preparation and implementation of industrial policies and the administration of restructuring and development processes in keeping with EU practice;
- To encourage direct foreign investments as sources of capital, know-how, technology and managerial skills;
- To render continued support for the development of small and medium enterprises (SME) in manufacturing industries in order to enable them to address market demand with high-quality products at lower costs.

Preliminary estimations indicate that the application of adequate economic policy instruments could result in a 3-4% annual increase in physical and energy **resource productivity** during the period 2008-2013 through:

- Macroeconomic structural adjustment (raising the service sector contribution to the GDP from 48.8 in 2005 to about 55% in 2013, 60-65% in 2020 and 70% in 2030) and intra-sectoral structural adjustment (lower share of energy and material-intensive sub-sectors in industry);
- Reduction by a minimum of 1.2-1.5% per year of the specific consumption rates for materials and energy and production losses in the processing industries, power generation, residential sector, transport and construction following a significant increase in investment for technological renewal and infrastructure upgrading, and also as a result of better management of technology and energy;
- A 2-3% annual increase of the share of products having high value added and relying on medium-grade and high technology, and also of the share of services in the structure of exports;
- Significant improvement in the technological content and the quality of products and services leading to better performance on the market and higher value added in relation to the cost of resources actually used;
- Enhanced commercial management, better procedures for the acquisition of raw materials (particularly energy resources), materials, components and services, and improved terms of sale of products and services on the most favourable niche markets in relation to the international fluctuation of prices.

By meeting these perfectly feasible objectives, it is estimated that over 60% of the economic growth can be accomplished without additional consumption of material and energy resources.

Increased resource productivity will also lead to a lower depletion rate of the main categories of primary resources and will help reduce costs, improve competitiveness and achieve sustainable economic growth.

In the field of **agriculture and food production** there will be a greater emphasis on food security and safety. Agriculture will continue to have a key role in providing income to a significant segment of the active population in the form of self-employment, while the diversification of activities in rural areas will demand complex interventions over time. The effort to promote a sustainable consumption and production pattern along with the protection of ecosystems and decoupling economic growth from environmental degradation will ensure the sustainability of food production, the reduction and elimination of imbalances on the markets for farm

produce that are caused by the current misuse of natural resources and will better turn to account the comparative advantages of Romanian agriculture. To this end, rational and coherent policies will have to be implemented in order to achieve the sustainable development of agriculture and processing of farm products, and to encourage quantitative growth and improved quality of food production and consumption at sustainable levels.

The implementation of the European Action Plan for Sustainable Consumption and Production with an aim to reducing the negative **impact of human activities on the environment** during the 2008-2013 period will make it necessary to engage in permanent and systematic dialogue with the business community and social partners with a view to setting agreed targets for the ecological and social efficiency of the main products and processes.

The implementation of the measures included in the ETAP Action Plan to support the introduction of **ecological technologies and** to encourage **eco-innovation** by applying the national road map will bolster the demand for, and the production of specialised equipment and procedures in all sectors of the economy. The correlation of the targets set in the sectoral operational programmes, particularly the National Strategy for scientific research and technological development, with those of regional development will encourage the dissemination of innovations that bring social and environmental benefits and will help the spread of technologies designed to improve environmental conditions and to promote the rational utilization of non-renewable natural resources and the sustainable use of renewable resources.

Research, development and innovation activities as well as those aimed at promoting eco-efficient technologies will be focused, as a matter of priority, on those sectors where the expected effects are the most significant in terms of ecological progress and competitiveness (organic foodstuffs, water-management technology, energy efficiency, urban transport, industrial processes having a major environmental impact, construction business, selective waste collection, recycling and disposal, bio-fuels, etc.).

A system of **green public procurement** will be phased in with an aim to come close to fulfilling, by 2013, the EU objective to reach, by 2020, the average level attained by the best performing Member States in 2006. For this purpose, all public institutions that have such responsibilities will prepare relevant terms of reference spelling out procurement requirements by groups of products or services and providing also updated information on the best practice of green public procurement available in the other EU Member States. It is also advisable to consider the possibility of working out, in collaboration with the business associations, a set of voluntarily undertaken rules and objectives aimed at introducing environmental criteria in procurement activities of private sector operators.

Product labelling will be expanded gradually, in accordance with EU norms, to reflect the environmental performance of goods on sale. Coherent information campaigns will be organised to inform the consumers (with the assistance of retail businesses, market regulators and organisations of the civil society) and to promote the eco-efficient products and services, including those resulting from organic farming.

In order to ensure sustainable production and consumption in conformity with the EU objectives, the following **specific regulations** will be enacted:

- The obligation to include in the annual balance sheets and in the income and expenditure budgets of enterprises an **indicator on «resource productivity»** to be measured by the ratio between gross value added and the cost of material and intermediary consumption. The introduction of this indicator makes it possible to develop higher performance standards for managers regarding the efficiency of their purchases of goods and services, targeting both the technology side and the commercial one; to enable a more accurate evaluation by stockholders of the quality of management and administration in terms of sustainable development of the business; to promote effective investment policies in a medium to long-term perspective, including the introduction in daily practice of business plans and multi-annual income/expenditure budgets; to explore in a systematic manner potential ways to reduce material and energy consumption and to increase productivity through technological upgrading and renewal of products in tune with market demand.

- To make it mandatory for the firms listed on the stock exchange and, starting 2010, for all businesses in industry, agriculture and transport to provide relevant **information regarding the management of resources**, the environmental performance of processes and activities, and the application of **green labelling** (the number and relative share of products carrying environmental labels).

- To improve the capacity of both public authorities and companies to implement the existing legislation on **public procurement**, particularly with regard to the provisions concerning the introduction of clear commitments on eco-efficiency and observance of environmental protection standards in all tender documents.

- To encourage the national, county and local public authorities to initiate, in cooperation with business associations, chambers of commerce and industry, universities and research centres, actions toward **raising social awareness and corporate responsibility** regarding sustainable production and consumption. This can be achieved through publicising best practices (including online posting); direct exchanges of experience (visits and joint workshops); dissemination of opportunities in the consultancy business, project design and project management, procurement and validation of environmental protection equipment and eco-friendly technologies.

- To encourage the establishment, within the envisaged centres of excellence or as autonomous units, of **specialized technological platforms and pilot projects** designed to promote, as a matter of priority, eco-efficient technologies and production processes; enhanced energy efficiency; development of renewable energy resources, including bio-fuels; improved technologies for water, waste and soil management; green transport; production of ecological materials, etc. The funding for such projects can be secured from the EU Framework Programme for Research and Development (FP7), which has allocated 30% of its total budget of Euro 32 billion for innovation and the implementation of research results.

In view of the EU recommendations, which are still under development, it is envisaged to make certain adjustments to the fiscal system entailing a partial **transfer of taxation from labour to material and energy resource consumption**. This can have major positive effects on sustainable development by encouraging the allocation of investments towards those sub-sectors where resource productivity is higher and inhibiting the growth of materials- and energy-intensive

sectors that cannot be sustained in the long run with the currently available resources; promoting the products and services that rely on medium-grade and highly complex technologies and result in advanced processing and higher value added; increasing the share of such products and services in overall exports.

Proper resort to fiscal instruments can also result in **increased savings** through a reduction of the tax rate on re-invested profit with an aim to encouraging investment in enhanced product competitiveness and eco-efficiency, and also through changes in the current regulations concerning the taxation of accruing interest on bank deposits by shifting the emphasis on taxing the differential between real interest and inflation.

Horizon 2020. National Objective: To decouple economic growth from environmental degradation by reversing the ratio between resource consumption and creation of value added; to move closer to the average performance levels of the EU in terms of sustainable consumption and production.

The main target is to accelerate the overall development of the service sector and to raise its contribution to the GDP growth to about 60%.

In parallel, it is envisaged to encourage the growth of those economic sectors that produce higher value-added with a lower consumption of materials and energy in ways which are compatible with market principles and with the EU regulations.

EU practice will be generalised with regard to the application of environmental, economic and social performance criteria in (sustainable) public procurement, the development and implementation of eco-efficient technologies and the enhancement of public awareness about the virtues and the direct benefits of sustainable production and consumption patterns.

Horizon 2030. National Objective: To come close to the average level attained at that time by the other EU Member States in terms of sustainable production and consumption.

1.4. Conservation and management of natural resources

Overall Objective of the EU SDS: To improve management and avoid overexploitation of natural resources, recognising the value of ecosystem services.

The successive versions of the EU Sustainable Development Strategy (of 2001 and 2006) attached increasing importance to the conservation and prudent use of the natural capital. Among the contributing factors to this shift of emphasis were the growing public awareness about the real threats of climate change caused by human activities and a heightened perception of the benefits of using ecologically clean goods and services for human health and wellbeing.

Horizon 2013. National Objective: To narrow the current disparities in relation to other EU Member States in terms of coverage and quality of environmental infrastructure by providing efficient public services in this domain, following the concept of sustainable development and respecting the «polluter pays» principle.

The Operational Sectoral Programme "Environment" 2007-2013, which was approved by the European Commission in June 2007, was correlated with Romania's development strategies and with the other EU-funded programmes with an aim to achieving conformity with the relevant EU directives while also reflecting specific national interests.

Overall, the strategies and national programmes concerning the environment correspond to the Renewed Sustainable Development Strategy of the EU (2006) in pursuing the following **specific objectives**:

(a) To improve the quality of, and access to infrastructure for **water supply and wastewater treatment** by providing safe potable water and sewerage services to the majority of urban areas by 2015 and establishing efficient regional structures for water and wastewater management.

Considering the current state of water management infrastructure (see Part II, Chapter 2), Romania obtained, under the terms of the Accession Treaty, transition periods for compliance with the *acquis* regarding municipal wastewater collection, discharge and treatment until 2015 for 263 municipalities having more than 10,000 inhabitants and until 2018 for 2,346 smaller townships having between 2,000 and 10,000 inhabitants; 2015 is the target year for complying with drinking water quality standards.

Integrated water and wastewater systems will be promoted through a regional approach in order to provide water services to the population and other consumers according to the required quality standards and at affordable prices. The targets proposed for 2015 (under the Directive 2000/60/CE) are: to secure or rehabilitate the water sources so as to achieve potable quality and to improve water treatment facilities in 300 townships (compared to 60 in 2006); to expand or rehabilitate the drinking water distribution networks in order to ensure access for 70% of the population (compared to 52% in 2006); to expand the sewerage systems in townships having over 2,000 inhabitants so as to achieve a 69.1% coverage by 2013, 80.2% in 2015 and 100% in 2018 (compared to 48.7% in 2005); to build wastewater treatment stations and to rehabilitate the existing ones in townships having over 2,000 inhabitants so as to insure a 60.6% coverage in 2013, 76.7% in 2015 and 100% in 2018 (compared to 34.9% in 2005); to raise the share of properly treated wastewater to 60% in 2015 (compared to 35% in 2006).

Water infrastructure investments in rural areas will be funded, in correlation with the investments from structural funds, through the European Agricultural Fund for Rural Development.

By 2013, it is envisaged to complete the implementation of the Programme (approved in 2005) for the gradual elimination of discharges, emissions and leaks of hazardous substances in order to prevent the pollution of inland surface water

resources, coastal waters, marine environment and underground aquifers and to limit threats to aquatic ecosystems (Directive 2006/11/EC). Measures will be taken to ensure the implementation of Directive 1991/676/EC regarding the protection of waters against pollution with nitrates originating from farming activities, which was incorporated into the Romanian legislation in 2000. The preparation of the spatial planning schemes for the hydrologic basins and areas will be completed by December 2009 and of those for the management of flood risks, including flooding hazard and risk maps by December 2013.

To finance the activities envisaged for the 2008-2013 period a total sum of Euro 3.27 billion has been assigned, of which 85% from the EU Cohesion Fund, while the estimated required investment amounts to approximately Euro 19 billion until 2015. The considerable differential between the available funds and those needed to meet the proposed objectives requires a major effort to identify additional sources of funding by resorting to more extensive concession of water services and promoting public-private partnerships.

(b) To develop **integrated waste management systems** by improving waste processing and reducing the number of historically polluted areas in at least 30 counties by 2015.

Romania was granted transition periods to achieve conformity with the EU directives for municipal waste sites by 2017; temporary storage of dangerous waste by 2009; storage of non-hazardous industrial waste by 2013. A number of 177 sites will have to be closed down and the amounts of waste deposited in the existing 101 substandard urban sites will be gradually reduced. By 2013, the amounts of biodegradable waste that is being deposited annually in landfills will be reduced to 2.4 million tonnes (50% of the 1995 level) and measures will be implemented to reduce considerably the dumping of packaging waste.

The activities in this field will concentrate on the implementation of integrated projects for waste management at national and regional levels through a hierarchical allocation of investments in accordance with the established priorities: prevention, selective collection, re-use and recycling, treatment and elimination. Integrated management programmes will be expanded progressively to rural areas by setting up collection services and eliminating the unregulated landfills.

The inventory of historically polluted sites, which began in 2005, will be completed and the priorities for intervention will be determined on the basis of risk analysis as a first phase of a long-term strategy for the economic use or ecological restoration and return of those sites to natural state.

By 2013, it is anticipated to achieve a degree of recovery of useful material from packaging waste through recycling or incineration for energy generation of 60% for paper and cardboard, 22.5% for plastics, 60% for glass, 50% for metals and 15% for wood. Special measures are envisaged, with completion deadlines between the end of 2008 and 2013, for the recovery of discarded electrical and electronic appliances and for the closure of underperforming medical waste incineration plants. The targets proposed for 2015 envisage: to create 30 systems for integrated waste management at region or county level; to close down 1,500 small waste collection sites in rural areas and 150 obsolete dumps in urban areas; to implement 5 pilot projects for the

rehabilitation of historically contaminated sites; to provide improved waste collection and management services for 8 million people.

Financing for those activities amounts to Euro 1.7 billion, of which 80% is to come from the European Regional Development Fund. These investments will be topped with complementary contributions from the PHARE and ISPA programmes, the Environment Fund and other sources.

(c) To reduce the negative environmental impact of urban heating systems and to minimise their effect on climate change in the most polluted townships by 2015.

Romania was granted transition periods until 2013 and 2017, respectively, for compliance with the limits for emissions (sulphur dioxide, nitrogen oxides and particulates) in order to comply with the EU Directives regarding the reduction of emissions from large combustion installations.

The programmed actions target the rational utilization of non-renewable energy resources and, wherever possible, the use of renewable or less polluting resources for urban heating systems. It is proposed to correlate such measures with the water management programme since the precarious state of the urban heating networks causes significant losses to the water distribution system.

To rehabilitate the urban heating systems in critical areas, the main targets envisaged for 2015 include the implementation of the best available technologies for reducing emissions of sulphur dioxide (SO₂) to 15 thousand tonnes (from 80 thousand tonnes in 2003) and of mono-nitrogen oxides (NO_x) to 4 thousand tonnes (from 7 thousand in 2003). Particulate emissions will be reduced from 38.6 thousand tonnes per year in 2007 to less than 15.5 thousand tonnes per year in 2013, and those of heavy metals will be maintained below 1989 levels. It is planned to rehabilitate the central heating systems in eight municipalities, resulting in a considerable improvement of air quality. Studies for the most suitable options will be prepared for another 15 locations, complete with provisions for the rehabilitation of substandard deposits for ashes and slag and of heating and hot water distribution networks.

The overall cost of compliance with air quality standards required for this sector according to the Community *acquis*, identified at the level of 2004, amounts to approximately Euro 5.2 billion for the 2007-2013 period. Actual co-financing from the EU Cohesion Fund will amount to about Euro 230 million, with an equivalent contribution from the Romanian national and local public budgets (up to Euro 460 million). The measures to improve air quality are supported through the Sectoral Operational Programme "Economic Competitiveness" (co-financed by the European Regional Development Fund) providing for investments aimed at reducing polluting emissions from large combustion installations operating in the national energy sector. Still, the financial resources that have been identified so far are not sufficient, and a substantial additional financial input will be required through external borrowing and promotion of public-private partnerships.

(d) **To preserve biodiversity and the natural heritage** by supporting the management of protected areas, including the implementation of the **Natura 2000 Network**.

The main objective for 2008-2013 is to implement adequate management systems for the protection of the natural environment and the conservation of biological diversity, natural habitats, and of wild flora and fauna species. The envisaged actions will focus on the strengthening of institutional capacity at national and local levels and involvement of public initiatives (with an important role to be played by NGOs) to comply with the relevant EU Directives, particularly those concerning birds and habitats, in correlation with the development of Natura 2000 networks. The Natura 2000 sites cover 17.84% of the country's territory, including 273 sites of Community importance (13.21% of the national territory).

The National Agency for Protected Areas and Biodiversity Conservation, which becomes operational in 2008, will ensure general coordination of the preparation and implementation of the management plans for each of the areas designated for protection. It is also envisaged to complete, by the end of 2008, the registration in the national cadastre of the protected areas of Community importance and of the methodological guidebooks for the integration of biodiversity indicators in the evaluation procedure for environmental impact.

The concrete targets proposed for 2015 include the augmentation of the number of protected areas and Natura 2000 sites that operate according to approved management plans from 3 in 2006 to 240 in 2015 and the expansion of such units to 60% of all protected areas.

The proposed measures for the conservation, rehabilitation and development of forests in accordance with the EU Forest Action Plan are presented in the section on "Rural development, agriculture, forestry and fisheries" (Part IV, Chapter 3.2) of this Strategy.

Available financing for the implementation of the envisaged measures amounts to approximately Euro 172 million of which 80% is covered by EU co-financing from the European Regional Development Fund.

(e) **To reduce the risks of natural disasters** affecting the population through the implementation of preventive measures in the most vulnerable areas by 2015.

The main objectives cover the implementation of sustainable systems for flood control in the most exposed areas and the protection and rehabilitation of the Black Sea coast.

An adequate level of protection against flooding is required because of the rising intensity of such natural disasters in the past decade. The floods that afflicted Romania in 2005 and 2006 had catastrophic consequences affecting more than 1.5 million people (93 dead) and causing severe damage to infrastructure (estimated at around Euro 2 billion). The proposed priority interventions will be implemented on the basis of a long-term strategy including measures at national and regional levels for the gradual development of flood-prevention infrastructure and mitigation of the consequences of flooding, the preparation of hazard maps and of precise methodologies for project design, management, supervision and public awareness.

The targets proposed for the year 2015 include the preparation and early implementation of 10 major flood-protection projects for the benefit of about 1.5 million people living in risk-prone areas with an aim to reduce by 30% the risk of flooding in the areas that are subject to intervention.

For the Black Sea littoral rehabilitation will proceed for 10 kilometres of coastline resulting in a 30% expansion of the beach areas.

Action will be taken to improve the effectiveness of interventions after floods or other natural disasters (earthquakes, landslides) by creating specialized units of first responders and providing them with training and adequate equipment, as well as by upgrading the early warning systems and raising public awareness about such risks.

The available financing for the first stage amounts to Euro 270 million, of which 82% will come from the Cohesion Fund.

The total investments required to ensure conformity with EU directives regarding environmental protection, conservation of natural resource and their rational management during the 2007-2013 period amount to approximately Euro 18 billion. The estimated costs involved in achieving conformity with the Community *acquis* by 2018 amount to Euro 29.3 billion, of which Euro 5.4 billion (18%) is expected to be covered from the state budget and from the budgets of local administration, Euro 9.9 billion (34%) from EU funds, Euro 7.8 billion (27%) from private investments and Euro 6.2 billion (21%) from other sources (National Environment Fund, international projects other than those co-financed from EU sources, external borrowing, etc.)

Under these circumstances, it appears necessary for the Romanian side to insist during the negotiations for the next EU financial programming period 2014-2020 on the need to obtain supplementary allocations in parallel with local efforts to make sure that the available investment resources are used efficiently, and to identify additional sources of financing to support local initiatives by promoting public-private partnerships, flexible credit mechanisms and encouraging the concession of some utilities on terms that are attractive to investors.

Horizon 2020. National Objective: To attain the present average EU level for the main indicators describing the responsible management of natural resources.

Taking into account the strategic targets of the environmental sector and the interventions envisaged for 2008-2013, it will be necessary to ascertain, during that programming period, the requirements for legislation changes, administrative capacity-building and further reforms, including the establishment of new government agencies or redistribution of responsibilities in order to enable the implementation of projects in the following programming period.

To the extent that the financing requirements for **water and wastewater management** can be secured in conformity with the objectives undertaken through the Treaty of Accession of Romania to the European Union, the provision of safe drinking water and access to sewerage and wastewater treatment systems will be ensured for 100% of the townships having more than 2,000 inhabitants by 2018. The process will continue with the improvement of water supply, sewerage and

wastewater treatment in smaller rural localities. In 2021, the management and spatial planning schemes for the hydrologic basins and areas will be revised. The plans for flood risk management will be completed by 2015, and a preliminary evaluation will be made in 2018 to introduce the necessary adjustments. The flood hazard charts and maps will be revised by December 2019 and updated once every 6 years afterwards. Based on the analysis of results obtained by 2013, the domains of intervention, priorities for action and financing requirements for the following period will also be re-evaluated.

Waste management will move gradually from the current practice of non-selective dumping in landfills to increased usage of recoverable waste, including the transformation of organic waste into compost and the exclusive utilization of ecological waste disposal in urban areas. Systems for integrated waste management will be installed in rural areas.

Regarding the improvement of **air quality**, the rehabilitation of district heating will continue in order to comply with the limits prescribed by EU Directives for the emissions of SO₂, NO_x and particulates.

The actions initiated earlier for the **improvement of biodiversity and natural capital endowment** will continue through an improved management of protected areas including enlargement of the Natura 2000 network, better expert studies for informed project design, the introduction and monitoring of new indicators for complex performance measurement, the promotion of eco-efficient technologies, the consistent application of EU regulations regarding maritime zones and the integrated management of coastal areas.

By 2020, it is envisaged to conclude the preparation of action plans for **flood-prevention** and response in case of natural disasters, including plans for the rehabilitation of most of the Romanian portion of **the Black Sea coastline**.

Horizon 2030. National Objective: To come significantly close to the environmental management performance of the other EU Member States at that time.

Romania will become broadly aligned with the EU requirements and standards regarding **water and wastewater** management. In accordance with preliminary projections in the management plan for the hydrologic basins, the environmental objectives for all Romanian water bodies will be met.

Priority actions will be re-examined in the area of **waste management, improved air quality, conservation of biodiversity and of the natural capital, along with prevention of natural disasters**, on the basis of results obtained in the preceding period, and new targets will be set in accordance with EU policies and the prevailing international trends.

1.5. Public health

Overall Objective of the EU SDS: To promote equal access to high-quality health care and to improve protection against threats to health.

Public health was officially recognized as an area falling within the competence of the European Union, with due respect for the principle of subsidiarity, following the adoption of the Maastricht Treaty (1993). The Treaty of Amsterdam (1999) stated that all Community policies in key areas had to consider the requirement to protect human health. The legal instruments, directives, decisions and recommendations that the EU institutions adopted along the way are part of the Community *acquis* and are mandatory for all Member States.

The resources allocated to the health sector in the core States of the European Union amount to as much as 8.5% of GDP, i.e. an average Euro 1,600 per person, with some variations from country to country. Although only reference models are available (German, French, British, Scandinavian), while a harmonized European health system is not yet in place, the tendency to adopt common procedures and standards of practice is evident for the application and evaluation medical treatments, for preventive interventions addressing general public health, inasmuch as all national health systems in the EU follow the social model based on the principle of solidarity (all persons covered by social insurance benefit from equal access to services, although their contributions may vary according to income).

Horizon 2013. National Objective: To improve the structure of the health sector and the quality of medical assistance and care provided through medical services; to improve the state of public health and the performance of the healthcare system.

Romania has not developed yet a strategic outlook in the medium and long run for attaining the average EU public health performance and for integrating health policies in the national strategies and sectoral or thematic operational programmes. The Strategic Plan of the Ministry of Public Health for 2008-2010 offers some indications about the steps to be taken in order to move the process forward. It also recommends that a special National Strategy should be prepared to improve public health and relevant educational programmes and to develop plans for specific pathologies.

The main short-term **priority actions** envisaged include:

(a) Improved access to health services

(i) Implementation of national healthcare programmes that should be responsive to priority public health concerns and to the needs of vulnerable groups, and to that end:

- To develop the capability for rapid response to public health threats by improving the effectiveness of existing supervision and intervention structures dealing with infectious diseases, including the ability to notify and verify events immediately, round the clock, every day of the year;

- To reduce the impact on public health of major contagious diseases (HIV, tuberculosis, sexually transmitted infections, in-hospital infections) and of chronic diseases; to concentrate prevention and provision of basic care services on those segments of the population that are exposed to higher health risks; to establish minimal assured packages of medical services for vulnerable groups; to introduce standardized reporting systems and systems for periodical evaluation relying on specific indicators;

- To promote interventions focused on the determinants of the state of public health through a differentiated ranking of risk factors by population groups; to introduce special programmes on health education and awareness about health risks, including risks related to lack of exercise, nutrition habits, use of tobacco, alcohol and psychotropic drugs, sanitation standards, household hygiene and food safety; to evaluate the effectiveness of information and awareness campaigns and to make the necessary adjustments in order to increase their long-term impact;

- To shift the emphasis towards preventive health services.

(ii) Developing and upgrading the infrastructure for health service providers through provision of appropriate equipment, installations and specialized means of transport, construction of 28 new emergency hospitals (8 regional university hospitals and 20 at county level), rehabilitation of 15 emergency county hospitals; acquisition of medical equipment and special transport vehicles by open public tender;

(iii) Development of human resources by seeking solutions to provide facilities aimed at encouraging medical personnel to work in remote, economically depressed areas; to the deploy mobile medical teams in order to evaluate the health status and specific risks in such areas and to provide education for health; to develop and expand the network of integrated community medical assistance; to define the role of community medical assistants and to ensure their professional training (500 persons to be employed every year, including 50 ethnic Roma); to produce specific information and educational materials; to implement a system of indicators for the evaluation of actual performance.

(iv) Establishment of a list of essential medication for public health to be subsidized entirely or partially through the social health insurance system.

(b) Improved quality of medical services

- To ensure the continuity of medical service by increasing the share of healthcare provided at patient's home and of primary care and specialist services provided to outpatients;

- To achieve compatibility with the healthcare systems in other EU Member States by adopting standards for medical products, technologies and professional training and by creating information networks; to introduce and use the concept of evidence-based medicine and evaluation of medical technologies; to set standards for patient safety;

- To improve the professional competence of the medical staff, especially for medical doctors by improving basic professional training; to introduce more demanding criteria for obtaining a medical license and for the educational standards applying to certified nurses and medical assistants; to revise the range of specializations and licensing procedures in conformity with EU standards; to improve the communication abilities of the medical personnel;

- To introduce harmonized medical practices based on clinical guides and protocols;
- To evaluate hospitals for accreditation through the establishment of a National Commission for Hospital Accreditation; setting specific competencies by type of hospital; preparing accreditation procedures, standards and methodologies; the accreditation of all hospitals within 5 years (by 2012).

(c) Improved healthcare financing through increased transparency in the use of available funding; introduction of digital records for the entire healthcare system to reveal the real costs of medical services; strengthening capacity for evaluation, audit and financial control; enforcing financial discipline; developing partnerships for the provision of medical and non-medical services and spinning off some of the services; overhauling some underperforming units; encouraging collaboration and partnerships with the private sector, non-governmental organisations and the civil society; establishing private wards in public hospitals; building genuine competition among healthcare providers;

(d) Decentralization of the healthcare system through a transfer of competences, duties and responsibilities to the local public administration; assigning to the local authorities the responsibility for promotion activities and health education, for the recruitment, training and evaluation of health mediators and community assistants, and for the medical assistance, including dental care, provided in schools and other educational units; transfer to the local authorities and communities of the effective responsibility for the management of city and township hospitals as well as the community health centres and subsequently for the municipal hospitals; intermediary evaluations every 6 months and final evaluation after 1 year to ascertain the effects of these changes and to operate the necessary adjustments accordingly.

(e) Institutional streamlining of the Ministry of Public Health and of the structures under its supervision or control.

As it appears from a mere enumeration of the actions that are envisaged in the short term, although the Plan for 2008-2010 contains ambitious objectives relative to the conditions prevailing at the starting point, it is mostly focused on narrowing some of the most glaring gaps still separating Romania's performance from that of the majority of EU Member States in terms of indicators that are considered to be minimal.

Important omissions in relation to the priorities established for the public health sector in the Sustainable Development Strategy of the European Union can be noted regarding the responsibility of relevant national authorities for legislative initiatives and institutional design in such areas as food safety, the use of additives and the labelling of foodstuffs for human consumption; the regulation of the production and use of chemicals, including pesticides, that can entail significant risks for human health and the environment; the influence of pollutants, including natural radiation and radioactive substances, on human health; the real dimension of mental health issues and the socio-economic impact of emotional pressures and stress; the scientific evaluation of the use of genetically modified organisms for human and

animal consumption; the problems and risks that are characteristic for certain professions, particularly transport, and those that are specific to extreme poverty, etc.

The list of such omissions, which is not exhaustive by far, is too long to justify the absence of a prospective vision over longer timeframes that would also have to take into account to a greater extent the worrying demographic trends. The future programmes in this area will have to concentrate also on the effects on public health generated by cross-border population movements, on the resurgence of transmittable diseases (including strains of antibiotic resistant tuberculosis associated or not with HIV/AIDS), on changes in morbidity caused by the increased incidence of cardiac disease, diabetes, obesity, cancer and neuropsychological diseases. Particular attention will need to be given to health problems linked to the consequences of climate change.

Horizon 2020. National Objective: To come closer to the current average public health standards and the quality of medical services provided in the other EU countries; to integrate healthcare and demographic factors in all Romanian public policies.

Taking into account the strategic targets for the health sector and and measures to be taken between 2008 and 2013, as of 2014 the new institutional structures will be consolidated to secure especially the quality of medical care services following decentralization and programme-based management. Further measures will be initiated, including legislative initiatives, to make sure that decision making on healthcare policy rely on an analysis of the system performance in terms of results, evaluation of technologies and systematic investigation of cost/effectiveness and cost/benefit analysis.

The implementation of the main healthcare programmes will lead to a continuing downward trend of infant and maternal mortality and morbidity, incidence of and mortality from contagious diseases and cancer (50% decrease). To this end, a second wave of preventive screenings for uterine, mammary and colon cancer will be put into effect.

General coverage for basic services, including emergency care, will continue to expand, along with access to long-term medical services for the elderly (50% increase), provision of palliative care to 60% of the requirements and of community-based psychiatric assistance to 70% of the requirements.

Horizon 2030. National Objective: To achieve full alignment with the average performance level of the other EU Member States, also with regard to healthcare financing.

Romania will meet the main requirement and standards of the European Union regarding access to basic emergency services, primary medical care, cancer control and mental health services at community level.

1.6. Social inclusion, demography and migration

Overall EU-SDS Objective: To create a socially inclusive society by taking into account solidarity between and within generations and to secure and increase the quality of life of citizens as a precondition for lasting individual well-being.

The activities of the European Union in the sphere of social protection and inclusion are regulated by the decisions of the European Council of March 2006 that established new objectives and operational approaches to encourage cooperation among Member States using the open method of coordination. The Communication of the European Commission on Social Services of General Interest set benchmarks for the responsibilities of government agencies and support organisations in charge of social affairs. The Member States also have precise obligations under the European Pact for Youth and the European Pact for Gender Equality.

The second Report, approved on 18 September 2007, that Romania presented on the implementation of the agreed UN Millennium Goals highlighted the fact that most of the targets related to social inclusion had been attained, some of them ahead of the deadlines set in 2003, thus making it possible to expect further substantial improvements by 2013 and in the following years. The rate of severe poverty went down from 10.91% in 2003 to 4.1% in 2006 (compared to the proposed target of 5.4%) and allowed for a new target of 3.5% to be set for 2009. There was a more than 50% increase in the number of ethnic Roma children enrolled in education. A slight improvement in the employment rate of women (from 52% in 2002 to 52.8% in 2007) warrants the possibility to attain a level of 55% in 2010 and 60% in 2015.

Nonetheless, the gaps between Romania's performance and the EU average levels are still significant regarding the access to social security services and active measures for the promotion of social inclusion. Serious attention will have to be given to the subject through a package of public policies also beyond 2013. Such policies will have to target with equal priority the need to stabilize and redress, within a realistic timeframe, the demographic situation that has shown alarming negative trends over the past two decades.

Horizon 2013. National Objective: To create a modern legislative, institutional and participatory framework for reducing the risks of poverty and social exclusion, promoting social cohesion, gender equality and cultural diversity, and also for the responsible management of migration and demographic change.

Specific provisions that are relevant for social inclusion are present in practically all national strategies and sectoral programmes. The Sectoral Operational Programme Human Resource Development 2007-2013, which was approved in October 2007, contains a distinct chapter on social inclusion

The programmes that provide financing social initiatives cover the entire population of Romania, but are primarily directed toward reducing the risk of poverty, promoting access to social services for certain underprivileged groups and improving the access to, and participation in the labour market for vulnerable groups. The

target groups include the Roma population, persons with disabilities, young people leaving the child-protection state system, women, families with more than 2 children, single-parent households, children at risk, convicts and former offenders, people dependent on alcohol and drugs, the homeless, victims of domestic violence, HIV/AIDS carriers, persons affected by professional diseases, refugees and asylum seekers. Minors left behind by migrant workers are a recent addition to these categories; the typical profile for the group are minors left in the care of elderly relatives or other family members (recent surveys estimate that this is the case of between 1/5 and 1/3 of all families in some rural areas).

The main envisaged **areas of intervention** are:

(i) The development of **social economy** by actively involving all relevant stakeholders (public institutions, business or professional associations, labour unions, etc.) and by encouraging the social action of non-governmental organisations and groups of the civil society (social cooperatives, self-help associations, foundations, charities and voluntary services, etc.). Such actions will support the development of strong local communities, will provide useful services to the people, will encourage citizens' activism and will help the emergence of new businesses resulting in further employment opportunities for vulnerable groups, while promoting social cohesion and solidarity.

(ii) Improved **access to, and participation in the labour market** for vulnerable groups through measures that are additional to those provided to the general population, in particular through targeted, personalized approaches, including special awareness initiatives for the problems facing the Roma population.

(iii) Promoting **gender equality** on the labour market by facilitating women's access to traditionally male occupations, to leadership positions and involvement in politics by deterring gender stereotypes, human trafficking, domestic violence, sexual discrimination and harassment in the workplace, by creating an inclusive labour market, securing work schedules adapted to women (work from home, flexible schedules, etc.), including re-training for alternative occupations of persons employed in industries at risk of relocation (textiles, garment industries).

(iv) **Trans-national initiatives for inclusive labour markets** by expanding the areas of cooperation with the other EU Member States and exchanging experience and information on primary and secondary legislation, operational procedures and methodologies for performance evaluation in the sphere of social protection and inclusion, adaptation of training schemes to address the use of newly emerging technologies. Since Romania has one of the largest segments of Roma population among the EU Member States, it appears necessary to initiate and promote concrete actions, including the adoption of uniform legal dispositions and administrative practices, to be harmonized at EU level, regarding the problems facing that ethnic group in particular.

The **actions** envisaged for the following period include:

- The elaboration and adoption of a coherent legislative package addressing poverty reduction, prevention of social exclusion and implementation of the concept of social economy, including the establishment, by law, of a Social Observatory and a

documentation centre for social inclusion, a single Law on Social Services and making the National Agency for Social Services fully operational;

- A re-assessment of the social services available and of the system of family entitlements, one of the aims being to reconcile family life with professional duties;
- Setting up a streamlined system for the accreditation, authorisation and licensing of the providers of social assistance services and a single set of standards for the protection of children, elderly and disabled persons, victims of household violence and other underprivileged groups;
- Promotion of special programmes to improve the quality of life of the senior citizens through a more active involvement of local public authorities and civic organisations in the provision of social and health services, outpatient and home care; development and upgrading of residential centre services;
- Development of alternative services for child care (nurseries, day care centres, kindergartens) and special programmes for children with disabilities; awareness campaigns for the rights of children;
- Upgrading and proper equipment of the infrastructure for social and medical services, in particular for emergency services (social centres, residential services, multifunctional centres);
- Support to the non-governmental sector for the development of social services through a single funding scheme and streamlined procedures for supporting the associations and foundations that provide social assistance services;
- Consolidation of the institutional and administrative capacity of national and local authorities and encouraging their interaction with charitable foundations and associations providing voluntary assistance.
- Promoting Romania's own initiatives in the framework of EU institutions regarding social inclusion, also by adopting uniform regulations at EU level on issues that are relevant for the specific concerns of the Roma population.

As a result of such measures, it is expected that the number of social economy structures will increase from 3 in 2005 to 830 in 2015 (while the number of workplaces created in such structures will grow from 12 to 5,000), the enrolment in training and retraining programmes for vulnerable groups will increase from 6,487 in 2005 to 150,000 in 2015 (those addressing the Roma population will increase from 1,500 to 65,000, those for persons with disabilities from 160 to 20,500, those for young leavers of the state child-protection system from 221 to 5,400), the number of alcohol or drugs-dependent persons receiving assistance will grow from 12,526 in 2005 to 40,000 in 2015, the number of participants in training programmes for specialists in the field of social inclusion will increase from 4,795 in 2005 to 10,000 in 2015.

The current **demographic trends** in Romania are considered to be worrying, showing negative trends for the long term. According to converging estimations from national and international sources, without taking into account emigration, but admitting a considerably higher life expectancy at birth, the population of Romania is set to diminish from 21.5 million in 2007 to 21.2 million in 2013, to 20.8 million in 2020 and 19.7 million in 2030, and may go down to 16.7 million by the middle of the century. The consequences of these predictable changes are considerable in all the spheres of economic and social life (labour force, education and professional training, social and health services, regional development, etc.).

If we consider the increased mobility of the population and the impact of emigration (a subject not yet adequately researched), according to projections by the UN agencies and Eurostat, Romania's population might go down to 20.8 million in 2013, 20 million in 2020, 18.6 million in 2030 and further to just 15 million in 2050.

The long-term demographic and economic effects of the massive fall in birth rate in the former half of the 1990s and the fact that it stayed at a low level thereafter will become evident after 2025-2030, when the generations that were born after 1989 will have a central place in the reproductive and economically active segment of the population. For 100 adults (age 20 to 59) there will be 50 elderly persons (over 60) in 2030 and 85 by mid-century, compared to just 34 in 2007. Considering those figures, the setting of sustainable development objectives to 2030 cannot ignore the impact of demographic trends in the long and very long run.

In view of these facts it is a priority of national interest to prepare a **Population Strategy for Romania** taking a long (to 2050) and very long view (until the end of this century) and containing concrete, science-based proposals for a set of proactive measures that should be compatible with the principles of sustainable development and with fundamental human rights with an aim to stabilize the situation and reverse the current trend. Such a Strategy will have to pursue three main goals:

- To improve the state of health, reduce mortality and increase the mean life expectancy;
- To avoid a significant growth of outward migration;
- To encourage higher birth rates, which requires a thorough evaluation of the current pro-family policies and the urgent development of measures for family protection and support through entitlements (financial transfers) and better social services accessible to all.

The development of such a well-considered Strategy, which will be costly and will have to cover a long period of time, requires broad consultation with all social actors and good knowledge of the policies and practices that are being pursued in other European countries. It is also necessary to establish a highly authoritative institutional structure having the tasks to monitor the continued implementation of the Strategy, to evaluate the results periodically and to adjust further measures and procedures accordingly.

Two demographic scenarios could outline the prospects of future development: an extrapolation of current trends or the beginning of a moderate but persistent demographic recovery. The medium and long-term objectives of development programmes and strategies at national, regional and sectoral levels will have to be readjusted in accordance with demographic projections.

By 2013, it is envisaged to complete the elaboration and to start the actual implementation of a harmonized legislative framework on **workforce migration** in order to promote coherent action – together with the social partners, local and regional authorities, educational and training centres, and the civil society – regarding the objectives of fair mobility, particularly by deterring illegal employment and social dumping. The development of instruments that are better suited to the needs of migrant workers and of the businesses employing them, improved opportunities for the access of migrant workers to the labour market and

interventions based on the principle of flexicurity will help to enhance the benefits of geographic mobility for the individuals and the economy as a whole.

It is estimated that, by 2020, the working-age population (15 to 64 years of age) will decrease by 1.2% compared to 2007, in parallel with a reduction of the inactive population by nearly 13% due to the effects of economic growth and to a 5.3% increase of the employment rate of the working-age population. As a result, the deficit of labour force is likely to persist, which will require an adequate management of the external mobility of the workforce and the application of special programmes for the admission of certain professional categories of immigrant labour. Indicative actions may include:

- Elaboration and adoption of a coherent legislation package on labour migration;
- Consolidation of the institutional and administrative capacity of the central and local authorities to manage the migration flows effectively.

Horizon 2020. National Objective: To promote consistently, in accordance with the new legislative and institutional framework, the EU norms and standards regarding social inclusion, gender equality and active support to underprivileged groups; to proceed with the gradual implementation of the long-term national strategy on demographic change and migration.

The priority operational objectives envisaged for this period include:

(i) Consolidation of institutional capacity in order to ensure the continuous updating and implementation of social inclusion and solidarity policies; improved coordination among public institutions, business community and civil society by

- Strengthening the capacity of local authorities to identify priorities correctly, to administrate the implementation of projects and the funds allocated for that purpose effectively, and to mobilize active involvement of the communities;
- An integrated approach to the active inclusion of vulnerable groups by combining personalized assistance services within the community, in residential centres or at home with insertion in the labour market;

(ii) Development and implementation of a social protection system that is suited to demographic challenges and support to initiatives that favour the achievement of this goal by

- Improving and harmonizing the legislative framework in tune with the foreseeable consequences of demographic developments;
- Developing pension schemes and social assistance systems that follow demographic trends;
- Halting the decline of the birth rate; reducing maternal and early age mortality and morbidity;
- Developing a system for the supply of entitlements and social services in support of child care, early development and education;
- Promoting social policies in support of the family, especially for young families with two or three children; ensuring equal access to reproductive health services for

the entire population; facilitating the insertion / re-insertion of parents on the labour market through the diversification of measures aimed at reconciling professional and family lives;

- Adapting the education and training system to demographic prospects and to the needs of the labour market; increasing and diversifying the offer for employment;
- Increasing healthy life expectancy through the development of high quality healthcare as well as through information campaigns and national programmes promoting sports, physical activities and a balanced diet;
- Developing a long-term care system for elderly dependents; facilitating access for the elderly, especially those in rural areas, to high quality social and medical care;
- Promoting active ageing and balancing the dependence ratio of the pensions system; promoting the retention in employment of older workers, including persons of pension age that wish to continue working; developing flexible work programmes; adapting workplace conditions and supplying training for elderly workers;
- Limiting the disparities in the territorial distribution of the population; Evaluation of the early results of the Population Strategy for Romania and subsequent revision of the targets and operational modalities for the following period.

(iii) Adequate management of labour migration

- Elaboration of special programmes for the admission of certain professional categories of immigrant workers;
- Elaboration and application of an adequate immigration policy corresponding to the objectives of the demographic strategy;
- Promotion of active measures to reduce the number of youth or young families that emigrate permanently.

Horizon 2030. National Objective: To come significantly close to the average level of the other EU Member States in terms of social cohesion and quality of social services.

The following tentative objectives are envisaged in order to ensure a rising quality of life for Romania's citizens and other residents and to reduce and reverse demographic decline:

- To secure a steady trend toward the reduction of demographic decline;
- To reduce the poverty rate to a level comparable with the EU average of that year;
- To ensure the access of all citizens and residents to quality healthcare, education and social services;
- To ensure non-discriminating access to the labour market for all persons;
- To integrate all persons that are fit and willing to work in the system of continuous education and training, including the population over 50 years of age.

1.7. Global poverty and the challenges of sustainable development

The European Union and the EU Member States are among the foremost supporters of the drive to expand the application of the principles and practice of sustainable development to a global level with an aim to reduce poverty and socio-economic disparities and to promote responsible policies regarding the conservation and rational use of natural resources. The EU has undertaken precise obligations towards this goal, in tune with the strategic documents that were adopted at the highest level by the United Nations and the World Trade Organisation with regard to a substantial increase, in qualitative and quantitative terms, of its contribution to development aid and to the improvement of international governance for environmental protection.

Regarding the volume of official development assistance (ODA), the European Union and its Member States represent the largest world donor, with about 60% of the total international contributions.

The renewed Sustainable Development Strategy of the European Union (2006) reconfirms those commitments to international solidarity by integrating global sustainable development concerns in the EU Common Foreign and Security Policy (CFSP) as an objective for multilateral and bilateral collaboration with a view to increasing the effectiveness, coherence and quality of foreign aid in the following period.

Overall Objective of the EU SDS: To promote sustainable development globally, and to insure the coordination of the internal and foreign policies of the European Union with the principles of sustainable development and its related engagements.

The European Council of June 2008 endorsed an agenda for action outlining the EU's role as a global partner in meeting the Millennium Development Goals; it reiterated the continued commitment of the EU to be the most important donor worldwide and to take further steps in support of the implementation of the Millennium Goals.

In accordance with those commitments, the European Union collectively will have to allocate 0.56% of the gross national income, i.e. Euro 66 billion, by 2010 (as against Euro 46 billion in 2006), with the possibility to go as far as Euro 84 billion by 2015, assuming that the Member States will abide by their obligations in keeping with the European Consensus for Development of 2005.

Romania, just like the other Member States which joined the EU after 2002, undertook to strive to increase the amount of official development assistance, within its budget allocation process, to reach the target of 0.17 of the gross national income (GNI) by 2010 and 0.33 of the GNI by 2015.

The Member States that joined the European Union before 2002 committed themselves to raise the volume of official development aid to 0.51% of their gross national income by 2010 and to 0.7% of the GNI by 2015.

The EU agenda for action emphasizes the need to enhance efforts in such areas as education, environment, health, water and sanitation, agriculture, development to fight poverty, infrastructure and gender equality with a special focus on Africa.

The EU agenda for action also states that meeting the Millennium Development Goals, while abiding by the principles of sustainable development, is the common responsibility of all partners, in particular the developing countries, which will have to honour their commitments.

The coherence of development policies will be pursued as a principle that was enshrined in the founding Treaty of the EU and further reconfirmed in the European Consensus for Development of December 2005. The main challenges to be dealt with are to enhance capacity and awareness, particularly among the actors responsible for sectoral policies, to ensure the balanced management of various policies and interests and to adjust them properly both at the EU level and in the partner developing countries. Policy coherence supports the horizontal integration of the development cooperation objectives in all the 12 sectoral policy areas (commerce and trade, environment, climate change, security, agriculture, fisheries, social policies and employment, migration, research, the information society, transport, and energy) that are likely to have an impact in the developing countries.

Horizon 2013. National Objective: To implement the required legislative and institutional instruments pertaining to Romania's status as a donor of development aid according to its obligations as an EU Member State; to establish the priorities and means of action and to allocate for this purpose approximately 0.25% of the gross national income (GNI) by 2013 and 0.33% by 2015, with the intermediary target of 0.17% of GNI by 2010.

Following EU accession, Romania has become a donor of development assistance. The Ministry of Foreign Affairs is the agency responsible for the coordination and management of the national policies concerning international cooperation for development. Development cooperation has been integrated in the overall objectives of the foreign policy of Romania. As an EU Member State, Romania is in a position to extend assistance to the developing countries that are included in the list compiled by the Development Assistance Committee of the OECD both as a matter of national policy and by associating itself to the relevant EU policies and financial efforts.

The principal objective of the national policy for international development cooperation is to support efforts toward poverty reduction in the countries that are recipients of assistance in the wider context of worldwide action to meet the Millennium Development Goals.

Concurrently, Romania has joined the EU commitments on development funding (The Monterrey Consensus) and those regarding the enhanced effectiveness of development assistance (in its capacity as a signatory of the Paris Declaration on effective assistance), including the undertaking to increase substantially the amount of official development assistance (ODA).

In keeping with European practice, Romania adopted a National Strategy concerning the national policy on international cooperation for development and an Action Plan for the implementation of that Strategy by a Government decision on 31 May 2006.

The Strategy sets the geographical priorities (Eastern Europe, Western Balkans and South Caucasus, while the list of recipient States can be expanded to Central Asia, Africa and Latin America) and the priority areas for targeted assistance (good governance, consolidation of democratic institutions and the rule of law, economic development, education and training, employment, health, infrastructure development, and environment).

Also in 2006, Romanian Parliament passed a law concerning the funding of assistance under the national policy on international cooperation for development; in 2007, a Government decision was taken to regulate the specific actions for the financing of such operations.

In 2007, Romania reported an ODA contribution amounting to 0.07% of the gross national income (circa Euro 80 million), which included Romania's contribution to the Community budget devoted to development cooperation and humanitarian assistance (Euro 54 million), contributions from the special budget of the Ministry of Foreign Affairs earmarked for development assistance, and contributions from the budgets of other agencies (the largest share being the scholarships extended by the Ministry of Education and Research). The actual contribution of Romania to support the efforts toward meeting the Millennium Development Goals (Euro 4.67 million) was directed through multilateral channels, namely the UN agencies and the funds under their administration.

Although substantial discrepancies still exist between Romania's performance and the EU average, particularly in comparison with the core EU Member States, with regard to certain important sustainable development indicators, the robust GDP growth between 2001 and 2007 qualifies Romania for the status of development aid donor. This was confirmed in the country Report on the Millennium Goals (2007), which noted the fact that Romania had met, in some cases ahead of schedule, the targets set in its first Report, in 2003. The progress made enabled Romania to set more ambitious targets for 2015 and provided opportunities for the application of the relevant acquired experience and expertise toward solving problems that are specific to countries still at an earlier stage of modern development.

In the following years, it is envisaged to increase the budget allocations for ODA, to meet the existing commitments, gradually to expand bilateral assistance, to strengthen institutional capacity and coherent action at a national level both in the governmental and the non-governmental sectors with a view to consolidating Romania's profile as a donor country in close cooperation and coordination with other international donors.

At a regional level, Romania will continue to provide assistance for the priority areas described in the National Strategy, in which it has acquired, during the process of accession to the European Union, the kind of experience that may prove useful to partner countries. Romania will also work in support of wider cross-border cooperation based on the objectives of sustainable development in the Black Sea Region through rational and efficient use of the funds made available for this purpose by the Romanian Government and other European and international partners, through the implementation of the Bucharest Convention on the protection of the Black Sea against pollution (1992), in correlation with the complex objectives of the maritime policy of the European Union, and through the concrete application of the joint Romanian-Austrian initiative to enhance cooperation in the Danube basin.

Action will be taken to enhance the citizens' awareness about the importance of Romania's involvement in programmes assisting the implementation of the practice and principles of sustainable development at a global level, not only as a moral obligation of international solidarity, but also as a concrete way to promote national interests, particularly in the economic sphere.

Romania will support, alongside the other Member States of the European Union, the strengthening of the role and competencies of the United National Environment Programme headquartered in Nairobi and its transformation into a specialized UN agency as a principal means to integrate the concerns for environmental conservation and rational use of natural resources at a global level with the general objective to advance the principles of sustainable development.

Horizon 2020. National Objective: To define the specific areas in which the expertise and resources available in Romania can serve the aims of development assistance, and to allocate for this purpose around 0.5% of gross national income.

The actions to consolidate the international profile of Romania as a donor country, will include increasing the budget allocation for official development assistance in order to meet its European and international obligations; creating a National Agency for the implementation of development cooperation policies and for promoting Romanian expertise as a donor state in those areas where Romania has comparative advantages.

Romania will promote better coordination and complementarity among donors through joint multi-annual programming based on strategies for poverty reduction, the establishment of shared implementation mechanisms, the development of joint studies and donor missions and efficient utilization of co-financing mechanisms.

In line with the Paris Declaration on aid effectiveness (2005), Romania will strive to develop a sense of ownership over the development process in the partner states, to make assistance more responsive to their real needs, and to emphasize a result-oriented approach and two-way accountability.

Horizon 2030. National Objective: To fully align Romania with the policies of the European Union in the sphere of development cooperation also in terms of budget allocations as a percentage of gross national income.

Romania will continue to increase the budget allocations for official development assistance, to pursue full alignment with the EU policies on development cooperation and to support joint EU initiatives in that sphere.

Steps will be taken to align Romania's performance with the OECD requirements in order to obtain the status of membership in the Committee for Development Assistance.

Romania will continue to promote its expertise as a donor country in those areas where it has comparative advantages and to encourage coordination and complementarity among donors, while duly observing the basic principles of the Paris Declaration on effective assistance.

2. Cross-cutting policies

The renewed Sustainable Development Strategy of the European Union (2006) does not set precise quantitative or qualitative objectives in addition to those that were included in the Lisbon Agenda and the agreed sector-specific directives, programmes and instruments. The targets for each timeframe have to be determined, therefore, in accordance with national priorities, while taking into account the current EU dispositions and practice.

2.1. Education and training

It is now widely recognized that the radical improvement and diversification of the opportunities offered by the Romanian educational and training system are priority objectives of strategic importance and basic preconditions for an effective implementation of the principles of sustainable development in the medium and long run. This also takes into account the fact that a comprehensive reform of the system and the investment in terms of effort and resources that is required to this end has a high degree of inertia. The ability to absorb additional inputs is a key factor, and the expected rate of return is small in the short run, while tangible results become evident only after a number of years.

Broad segments of Romanian society are now aware that education represents the strategic prerequisite for future national development, that its contribution is essential for the multidimensional, forward-looking endeavour to shape the country's human capital for the future. Education is perceived as the way to achieve sustainable development, which is, after all, a process of societal learning in search of innovative solutions.

The preparation of a comprehensive package of legislative and institutional measures, conceptual guidelines and realistic projections of financing requirements is still under way. This complex process is informed by the Lisbon Strategy, the strategic guidelines on cohesion, the European Commission Communication regarding the information society, the working programme on education and training for 2010 and the integrated action programme for life-long learning 2007-2013, together with the provisions of the Bologna Declaration (1999), the Millennium Goals (2000), the UN Decade on Education for Sustainable Development 2005-2014 and the related Strategy which was approved in 2005, in Vilnius, under the aegis of the UN Economic Commission for Europe (UNECE).

The Sectoral Operational Programme for the Development of Human Resources 2007-2013, which was approved in November 2007, derived its objectives and envisaged actions from the National Strategic Reference Framework 2007-2013. It was built around seven priority axes, of which at least 3 are directly relevant for the future of the national education and training system. The National Reform Programme for the Lisbon Agenda 2007-2010 also includes the development of education and training among its strategic priorities. In 2007, Romania prepared a Strategy on Education for Sustainable Development, which followed the

recommendations by the UNECE Strategy and detailed the objectives and specific actions to be undertaken in that area.

The elaboration by national consensus of a medium to long-term strategic vision based on general principles and priorities of the National Education Pact, which was signed by the main political parties in February 2008, will be finalized in 2009 – the year when the EU post-Lisbon Strategy will be agreed and the allocation of financial resources for the programming period 2014-2020 will be negotiated.

Horizon 2013. National Objective: To develop human capital and increase competitiveness by linking education and life-long learning to the labour market and ensuring better opportunities to participate in a modern, inclusive and flexible labour market.

The target is, therefore, to provide training and retraining for skills matching the new requirements of the national labour market and the competitive demands of the EU Single Market for a 1.65 million people, or as much as 18% of the total employed population of 2006. Considering the unsatisfactory results obtained in 2000-2006, it becomes obvious that some of the targets set in the Lisbon Strategy (an average employment rate of 70% for the population between 15 and 64 years of age; the reduction of drop-out rate to under 10%; raising to 85% the share of high-school graduates in the population aged 15 to 64) cannot be attained, in Romania's case, until 2010. This will require a realistic rescheduling, realistically suited to the prevailing conditions. Sustained effort will be necessary even to meet the target set under the Millennium Goals to make sure that, by 2012, at least 95% of the children in rural areas should complete their primary and secondary education cycles. Under these circumstances, the main emphasis of the policies and actions to be pursued until 2013 will be placed on maintaining and stepping up the current trends toward catching up with the current performance of the other EU Member States.

In order to guarantee access to quality education and training and to maintain high educational standards, the following specific **objectives** will be implemented according to the established priorities of the Sectoral Operational Programme for Human Resources:

- To improve the system of assured quality standards for pre-school, primary and secondary education and for initial vocational training by providing **support to pre-university educational establishments** with a view to upgrading their management and ability to teach skills that are relevant on the labour market;
- To improve the quality standards in higher education by **supporting universities** for the upgrading of their management and ability to provide relevant qualifications;
- To improve the qualifications of teachers, tutors, trainers and other categories of educational personnel by **supporting their initial and continued professional training**;
- To broaden the framework for life-long learning by **supporting training providers** in order to develop systems of quality standards and management of quality;
- To support young researchers in their quest to acquire superior knowledge and competences through expanded opportunities for **doctoral and post-doctoral studies**.

In order to ensure **access to, and participation in quality education and initial professional training**, action will concentrate, at an early stage, on decentralisation, support for schools to implement quality control systems and building a “quality culture”, while ensuring equal access to education. A profound reform of early education will proceed on the basis of the existing National Strategy for early education, along with the expansion of the network of preschool units (kindergartens), to provide specific educational support to disadvantaged groups and to continue the ‘second-chance’ programmes, while ensuring good management of pre-university educational units and enlarging the coverage of school transport services and strengthening collaboration with local authorities on the basis of well-defined responsibilities. Schools will be equipped with the necessary teaching aids to deliver personalized support for students with special educational needs.

Improved quality of education requires the development of specific methodologies for evaluation, encouragement of participation, monitoring of truancy and graduation rates, for the special training of evaluators and accreditation agents; for support to educational services providers through initial training for the use of new teaching instruments, application of new professional standards and development of managerial skills for targeted groups (school principals, inspectors, other relevant decision-makers, officials involved in the formulation of educational policies, and teaching staff). The educational offer will include curriculum updating, introduction of new teaching techniques suited to individual student learning requirements and styles, promotion of innovation in teaching and learning, development of abilities and competences that are needed for new occupations, including computer skills and access to Internet. The share of supported schools that receive accreditation (or re-accreditation following periodic evaluations) in line with the new quality standards and quality control is expected to grow to 80% by 2015.

Since the expansion of compulsory school-years from 8 to 10 resulted in additional pressures on pre-university education infrastructure, some of the existing units will be rehabilitated and upgraded in parallel with the establishment and development of educational campuses endowed with complex facilities (classrooms, boarding, cafeterias, libraries, workshops, indoors and outdoor sport facilities). It is estimated that 480 campuses will be required to provide especially vocational and technical training centred on the arts-and-crafts schools. The adaptation of professional qualifications to the current and projected demand of the labour market and to specific regional requirements will be ensured.

The development of counselling and professional guidance services for students as well as for parents will concentrate in particular on rural areas, on the Roma communities and other disadvantaged groups. In order to promote entrepreneurial culture through education, special courses will continue to be developed, including extra-curricular activities to foster useful abilities and skills for further insertion in society and on the labour market.

Several projects nearing completion aim at making the teaching career more attractive by improving recruitment and encouraging the best university graduates to stay in the educational system, ensuring the access of teaching staff to bachelor and master programmes, including the pursuit of pedagogical and inter-disciplinary degrees, promoting new educational professions (learning developers, quality auditors, educational assistants for children with special needs, etc.). In order to

improve the quality of pre-university education at all levels, a single system of certification and transferable professional credits will be established, along with networks for the dissemination of best practice and benchmarking. In view of the fact that the use of information technologies in the teaching and training processes in Romania is still well below the other EU countries, all programmes for the training and retraining of educators, teachers and trainers will include compulsory study modules for the acquisition of computer skills.

In order to manage the impact of negative demographic trends on the teaching staff, special programmes will be developed for conversion to other activities such as professional guidance and counselling, extracurricular activities and increased geographical and occupational mobility.

A substantial improvement in the quality of **higher and post-graduate education** will come about as a result of the implementation of the National Higher Education Qualifications Framework. It will introduce transparent standards and practices describing the qualifications and validation procedures, the development of solutions relying on information technology for process management, the training of a contingent of evaluators of educational processes and of their impact on the results of higher education. The share of universities that are expected to receive accreditation according to the new quality standards will reach 90% by 2015. Following the recommendations made in the course of public debates on this Strategy regarding the ways to overcome the resistance to change of existing ossified structures, it appears necessary to invite independent experts from Romania and from abroad and to use their expertise for peer reviews of auditing, evaluation and certification operations in accordance with internationally accepted quality standards for higher education.

Increasing the relevance of higher education for the labour market requires the adjustment of existent curricula or, on a case-by-case basis, the introduction of new bachelors and masters programmes. For this purpose, the interaction between universities, the business community and the research, technological development and innovation sector will be strengthened, including the establishment of complex, inter-disciplinary clusters.

To meet the demands of the knowledge-based society, the offer of post-graduate education options both in Romania and abroad will be broadened and diversified to include partnerships with universities that have well-established traditions and performance standards in other EU countries. This will imply a re-adjustment of available funding, considering that of the total budget allocated to higher education in 2006, only 0.16% was earmarked for doctoral studies, while post-doctoral programmes have not benefited from public funding. By 2015, it is envisaged that the share of assisted doctoral students who acquire a degree should grow to 90%.

Promoting the principle of **life-long learning** represents a priority for Romania, given the significant shortfalls in terms of enrolment rates in various forms of training, retraining, professional upgrading or specialization (more than 5 times below the EU average), as well as in terms of social and personal development. To do better in this area is essential for personal, civic and social development, and also for the likelihood of obtaining employment with higher wages based on knowledge acquired through learning, from early education to post-graduate studies and other

forms of adult education in formal and non-formal settings. The rationale for the development and diversification of these forms of education and training (formal, non-formal and informal) lies in the growing relevance on the labour market of the competencies thus obtained. Sectoral Committees will establish the actual requirements for the professional training of human resources on the basis of strategic priorities for socio-economic development by defining the qualifications and competences that may be in demand on the labour market in the short and medium term.

The development of pre-university education campuses and of high-performance technology parks, along with other facilities created for this purpose will offer the logistical base for refresher courses, retraining and acquisition of a new occupational status corresponding to labour market demand for adult workers.

The programmes and forms of permanent education address all age groups and qualification levels but are particularly relevant for the young people, especially those that have dropped out of school (the rate of unemployment for this category is 3.5 times higher than the general unemployment rate), for the elderly people still able to work, for the underprivileged or other vulnerable groups. The magnitude of the problem observed in Romania as well as the positive experience acquired in other EU countries call for a coherent approach at national level, involving coordination between sectors and cooperation with social partners.

Compared to the number of 187 thousand participants in training and professional reorientation programmes in 2004, it is envisaged that the total enrolment should count at least 360 thousand persons in 2015, of whom 160 thousand women; the share of students who get assistance for transition from school to work and have obtained a job or participated in further courses will grow to 65%, while the number of those who benefit from career counselling services will increase from approximately 86 thousand in 2005 to 400 thousand in 2015.

The entire educational and training system will internalize the **principles and objectives of sustainable development** as an integrator of the knowledge, aptitudes and skills that are needed for personal and socio-cultural performance in the modern world. Education for sustainable development will be integrated laterally in all syllabuses, either as sets of subjects or as modules, from nature sciences to civic responsibility to sustainable production and consumption patterns relative to available resources to the principles of cultural diversity, good governance and the rule of law. Promotion of sustainable development through education transcends the boundaries of the education paradigm allowing the classification of formal, informal and non-formal modalities. Education for sustainable development requires cooperation and partnership among many decision-making factors: central and local authorities, education and research units, public health system, the private sector, manufacturing industries, transport, agriculture, commerce, the labour unions, mass-media, non-governmental organisations, local communities, citizens and international organisations.

Education for sustainable development must not be limited to an environmental perspective. It should develop as a broad, inclusive concept, bringing together interconnected environmental, social and economic aspects. Tackling the broad and diverse array of topics associated with the principles of sustainable development requires an inter- and trans-disciplinary approach through integrated, cross-

curricular and mutually reinforcing educational forms, which should also take into account specific local, regional and national conditions, as well as the global context. The training and education system will encourage pro-active participation and voluntary contributions expressing the civil values acquired during school years.

Through the measures that are being envisaged, Romania's educational system will combine the traditions of the national school with the principles of education for sustainable development. The thematic substance is thus integrated in the formal, informal and non-formal educational systems through a three-dimensional approach: socio-cultural, environmental and economic.

- Socio-cultural educational content embracing local and universal concerns: human rights, peace and security, gender equality, cultural diversity, inter-cultural education, education for health and the quality of life, education for leisure, good governance (transparency, free expression of opinion, freedom of speech, participation in policy-making), appreciation of national heritage and local history;
- Education about and for the environment: the objectives of environmental protection in the processes of development, environmental quality, conservation, protection and improvement as development goals, education for the regeneration of the natural environment, education for recycling and re-use of material resources;
- Technological and vocational training: acquisition of competencies and proactive attitudes (to understand the real world as a common good; to possess general knowledge and to specialize in a given field; to go on learning and to pursue education throughout one's life in a learning society), abilities and aptitudes (to work individually or as part of a team with integrity and honour; to be honest, punctual and responsible; to adapt to changing circumstances; to know and understand problems and difficulties; to apply creative, critical thinking to problem-solving; to resolve conflicts without recourse to violence); ethical approach to development in a sustainable society.

In this general framework, the syllabuses will be differentiated for the urban and rural areas to cultivate the pro-active involvement of the younger generation and the teaching community in the preparation and implementation of projects and schemes that are compatible with the objectives of sustainable development (for example, in the framework of the Local Agenda 21).

In order to make sure that the implementation of the established objectives and operational targets has the desired impact, it is necessary that the educational and training policies currently under development should include provisions directly relevant for Romania's sustainable development prospects. By correlating the educational policies with the national strategies and sectoral programmes, while taking into consideration the foreseeable demographic developments, forward planning will have to ascertain what kind of human resources Romania will need. Those needs will have to be explicitly identified for each educational level, thus providing the logic for the restructuring of the system and the preparation of adequate curricula and syllabuses based on the expected results of the educational process. Such a systemic approach will generate optimum effects in the medium and long run.

The allocations for **financing the human resource development programme** (co-financed through the European Social Fund) for 2007-2013 amount to Euro 3.5

billion, representing 85% of the total requirements, with an additional national contribution of Euro 613 million.

Horizon 2020. National Objective: To attain the average performance level of the EU in education and training, with the exception of services in rural areas and for disadvantaged groups, where the EU targets for 2010 will apply.

For this timeframe, subject to further planning developments, the following **strategic directions** are envisaged:

- Restructuring of the educational cycles according to specific training profiles and re-formulation syllabuses in keeping with the reference levels to be set by the National Qualifications Framework, so that the transparency of the life-long learning system and occupational mobility are ensured. Restructuring operations must ensure access to all forms of education and a substantial improvement of the quality of the educational offer through the acquisition of competencies that could support personal advancement, competitiveness and sustainable development;
- Development of institutional capacity and innovation relying on knowledge management; establishment of cooperation networks, including public-private partnerships, while promoting decentralization of the educational system and upholding university autonomy;
- Professional upgrading of educational governance and school management through human resource development for effective leadership, promotion of participative, pro-active and anticipatory attitudes, and development of specific competences, while giving equal priority to social and personal aspects;
- More openness in the formal education system by recognising the knowledge acquired through informal or non-formal training. It is to be expected that effective access to centres for the validation of competences acquired through such forms of training will be achieved by 2020. This will acknowledge the importance of life and work experience and the relevance of a diverse educational offer both to the learners' personal aspirations and to the needs of social and economic development;
- The development of the institutional and logistical foundation of the national educational system, including opportunities for physical education, sports and recreation activities, will go hand in hand with the diversification of the non-formal and informal training offer. The enrolment in life-long learning systems, re-training and professional recycling will rise to a minimum of 15% of the 25-64 age group;
- The improved quality of initial and continued training of teaching staff and managers using flexible systems for the renewal of knowledge will emphasize attitudes specific to a "reflexive practitioner" who is able to promote inter-disciplinary approaches in support of knowledge acquired through learning, particularly those skills that fit the socio-cultural, economic and environmental requirements of sustainable development;
- Enhanced preparation of young people for life-long learning in order to acquire the social and emotional intelligence and the versatility that is required to become competitive on the labour market of the European Union;
- Development of syllabuses that are differentiated according to regional characteristics and students' needs, providing for a broad and balanced coverage of

the fields of knowledge, making it possible to acquire a deeper understanding of correlations and linkages between economic, social and environmental aspects of development, including learning of foreign languages, using the opportunities for inter- and trans-disciplinary learning, acquiring abilities for planning and research through individual effort and team work, participative involvement in community services, enhancing the sense of responsibility toward shared global issues, respect for universal values, multiculturalism and specific identity; promoting creative curiosity and continuous self-interrogation;

- Expansion of quality education and training to rural areas, promotion of gender equality and bringing young people from underprivileged groups into the education system;

- Expanding international cooperation through the initiation of, and participation in European, bilateral and cross-border projects and programmes; promoting the presence of Romanian educators in representative European and international institutions; encouraging the participation of the Romanian scientific diaspora in educational projects implemented in Romania and in the evaluation of those projects, programmes and policies that are relevant for sustainable development.

Horizon 2030. National Objective: To bring the Romanian educational and training system in line with the best performing EU countries; to come significantly close to the average EU level regarding the offer of educational services provided in rural areas, to members of the disadvantaged groups or to persons with disabilities.

- The principles and practice of sustainable development will be incorporated organically in all educational policies. On the basis of the strategic directions to be agreed in 2009, foresight exercises will be carried out every 5 years for comparative evaluation of the results; the deadline for the relevant projection to the year 2030 is 2019;

- The internal and external effectiveness of the education system, from pre-school education to post-doctoral studies, from formal to non-formal education, from initial and continuous training to equal access to quality education will continue to be the primary objective. Effective learning will remain a priority, while the forms and methods of teaching will be characterized by diversity and flexibility in their pedagogical approaches and will concentrate on building habits for learning and accumulation of useful knowledge and the capacity to apply those skills in a broad range of fields;

- The evaluation, certification and attestation methodology for the quality of educational activities and their relevance to the labour market will be aligned with the EU benchmarking procedures and with the best practices worldwide;

- International cooperation will be further expanded.

2.2. Research and development, innovation

The research and development sector in Romania suffered probably the most from the collateral damage inflicted by the transition to a market economy. Deficiencies already evident in the 1980s were exacerbated over almost 15 years by chronic under-financing (three times less than the EU average as a percentage of GDP) and belated restructuring of that sector leading to the drastic reduction of the number of active researchers (by some 30%, i.e. 2.6 researchers per 1,000 employees, compared to the EU average of 7.8) simultaneously with an increase in their average age (64% over 40 years of age). The survival strategies dictated by the penury of resources gravely diminished the attractiveness of a research career, which led to the massive migration of highly-performing researchers to other sectors of the economy or abroad; at the same time, the influx of young talent dried up as a result of poor remuneration and lack of clarity and transparency about the prospects of professional advancement.

The persistence of this situation had an unfavourable impact on the maintenance and development of the research infrastructure as well as on international collaboration even in those fields where the existent performance and equipment placed Romanian research in a competitive position at European level. Consequent to this combination of factors, the number of researchers relative to the population of Romania now represents only a third of the EU average. From a qualitative point of view, the number of scientific studies produced by Romanian researchers and quoted in leading international publications as well as the number of Romanian patents registered or submitted for registration in Romania or overseas are very low (ranking 69th worldwide), much below the current potential.

Horizon 2013. National Objective: To attain the EU average for the main indicators that describe the structure and performance of the research, development and innovation system.

The National Strategy for Research, Development and Innovation 2007-2013, which was prepared following broad stakeholder consultations under the aegis of the National Authority for Scientific Research in December 2006 and was subsequently approved by the Romanian Government in 2007, includes a critical evaluation of the current situation, an overall vision for the future, detailed strategic objectives, applications for exploratory and cutting-edge research, priorities for public investment, promotion of innovation, and concrete measures for the implementation and monitoring of the Strategy. During the preparation of the Strategy, due attention was given to coherence with the main relevant EU documents (particularly with the revised Lisbon Strategy of 2005, the Seventh Framework Programme for science and technology, and other specific collaboration instruments) and to complementarities and synergies with Romania's general policies, sectoral strategies and operational programmes adopted at a national level.

For this purpose three **strategic objectives** were defined:

(a) Creation of knowledge by obtaining cutting-edge scientific and technological results, increasing the international visibility of Romanian research, promoting the transfer of results into the economy and society, substantially

improving, in qualitative and quantitative terms, the performance of human capital, also through the development of centres of excellence;

(b) Increasing the competitiveness of the Romanian economy by promoting innovations that have an actual impact on the activity of companies, accelerating technology transfers, shifting the emphasis towards exercises in complex problem-solving with direct applications, encouraging partnerships with manufacturing and service companies on a competitive basis, creating centres of competence and technological platforms;

(c) Improving the social quality of research by generating conceptual and technological solutions that have a direct impact on the preparation and implementation of public policies, and correlating research with social requirements, particularly in such fields as public health, environmental protection, infrastructure, land use and spatial planning, and sustainable management of national resources in an ecologically responsible fashion.

For the implementation of this strategic vision, **specific objectives** were established, some of which have quantitative targets with reference to the EU average levels:

- **To improve performance** so as to place Romanian research in the leading group of 35 countries ranked by the number of titles in ISI-indexed publications (from the 48th position between 1995 and 2005), to increase 10 times over the number of EPO patents per one million people (from 1.72 in 2003, compared to the EU average of 137), to triple the number of nationally registered patents compared to 2006 and to increase the share of high-tech patents, to double the number of innovative companies (19% in 2002-2004);

- **To develop the resources of the system** by tripling the number of researchers while reducing their average age to under 40 years, providing an annual average of 2,000 doctoral scholarships, achieving a proportion of 50% of doctorate holders and doctoral candidates in the total number of researchers, increasing the attractiveness of research careers and applying performance criteria for professional promotion, involving in the work of Romanian research centres or in projects implemented in Romania more foreign researchers and scientists from the Romanian diaspora who have outstanding achievements or creative potential, facilitating the researchers' access to high-performance research infrastructure in Romania and abroad, particularly in the EU;

- **To involve the private sector** by increasing private spending for research and development to 1.5% of the GDP, motivating private companies to incorporate research outcomes in the production of goods and services, developing public-private partnerships in science and technology and specialized interfaces between supply and demand, simplifying the access of innovative companies to sources of co-financing in cooperation with public universities and research centres;

- **To enhance institutional capacity** by reducing the fragmentation of the current system and encouraging participation in national and international research networks, promoting Romanian higher learning and research centres as actors in the international knowledge market and viable commercial partners, improving the professional standards of research management, independent evaluation (preferably international) of the performance of research financed from public sources,

consolidating the role of science in society by promoting ethical standards, gender equality and communication and dialogue between science and society;

- **To expand international cooperation** through participation in cross-border programmes and projects and initiation of new ones, a better representation of Romania in representative European and international organisations, encouraging the participation of the Romanian scientific diasporas in projects that are implemented in Romania and in the evaluation of projects, programmes and relevant public policies;

The Strategy offers an integrated outlook for research in a knowledge-based economic system and for its multiple interfaces with society and with financial, information and political structures. It states the necessity to evaluate research according to its capacity for innovation and underlines the importance of professional administration and management of research with an emphasis on the administration of contracts, financial resources and intellectual property rights. On the basis of a comprehensive foresight exercise, the first of its kind in Romanian science and research, the Strategy indicates the **priority areas** for publicly funded research and development activities: technologies for the information society, energy, environment, health, agriculture, food security and safety, bio-technology, materials science, innovative products and processes, space and security, socio-economic research and the humanities.

With regard to **innovation**, the proposed objective is to make sure that, despite the current disparities, the share of Romanian companies that come up with innovative products and services gets closer to the EU average towards the end of the reference period. With an aim to promoting coherent policies for innovation, it is planned to introduce a system for cross-sectoral coordination at a national level, to develop a portal for companies, particularly small and medium enterprises, to launch partially subsidized training programmes for innovation management, and to develop technology transfer units (from patents to products, services or processes) attached to universities or research centres, which would further evolve into science and innovation clusters. The Strategy provides for flexible instruments to link up with the current trends in the EU regarding innovation in the services sector, regulation of state aid for research and development, patent procedures at a European level and protection of intellectual property having digital content.

By accomplishing these objectives, the research, development and innovation sector will contribute to the implementation of the principles of sustainable development by building new compatibilities and synergies in a complex, multi-disciplinary approach. The adoption and organic integration of the principles and objectives of sustainable development will incrementally lead to the emergence of new ideas in theoretical and applied science at the interface between traditional fields of research resulting in a higher degree of synthesis.

The measures aimed at ensuring an adequate **institutional framework** for the implementation of the Strategy include the continued activity of the National Council for Science and Technology Policy, with the mission to oversee the correlation of relevant policies at inter-departmental level, and of the National Authority for Scientific Research, an executive body that is responsible for strategic planning, preparation, implementation and monitoring of policies and programmes, particularly the National Plan for Research, Development and Innovation. Three new public institutions will be created: the Research Council, the Council for Technological

Development, and the Innovation Council. The Romanian Academy, the line ministries and the branch academies are responsible for the preparation of their own plans for the implementation of the Strategy.

The overall **financing** from public and private sources for research, development and innovation activities is foreseen to reach 2.3% of the GDP by 2013 (2.5% in 2015), thus getting close to the EU target (3% in 2010). Public financing for this sector showed an upward dynamic in recent years (0.18 % of the GDP in 2004, 0.54% in 2007, and 0.75% in 2008) with a target of 1% of the GDP in 2010. Additional fiscal measures, combined with flexible use of structural funds and state support, in ways that are compatible with EU regulations, are envisaged to encourage investment in technology transfer and to promote innovation, particularly by small and medium-sized businesses.

In addition, the Sectoral Operational Programme "Increasing Economic Competitiveness" includes support for research, technological development and innovation through the promotion of partnerships between universities, research centres and companies with an aim to obtaining results that are applicable in the economy, securing further investment in the infrastructure for research, development and innovation, improving administrative capacity and the access of companies to research results. To develop such investments, the Programme allocated Euro 646.5 million, of which 83% from the European Regional Development Fund to be supplemented from private contributions to the tune of Euro 180 million.

Monitoring and evaluation are to be based on the performance indicators included in implementation plans. Each year, a public report on the completion of established objectives will be issued. An independent mid-term evaluation report will be published in 2010. In 2013, a post-implementation impact study will be completed, and the Strategy will be adjusted to fit the requirements of the following period on the basis of an evaluation of the results obtained, an analysis of the system's functionality and proper consideration of prospective developments in science and technology.

Horizon 2020. National Objective: To connect Romanian research to the mainstream scientific and technological developments within the EU; to expand innovative activities; to support the emergence of centres of excellence having an international impact.

It is envisaged to continue the improvement of the legislative, regulatory and institutional framework, the development of collaboration with innovative enterprises and the promotion of co-financing with private capital. Public spending for research-development-innovation in universities and specialized units will rise to at least 3% of the GDP.

Horizon 2030. National Objective: To establish the key elements of a society and economy based on knowledge; to produce essential contributions of Romanian research towards the complex objectives of sustainable development.

3. Financial and Economic Instruments

At this stage, it is not envisaged to have a separate budget dedicated to the implementation of the National Sustainable Development Strategy. Future revisions of the Strategy, starting with that of June 2011, will consider the necessity and feasibility of such a step. The objectives and targets of this National Strategy and of its future revised versions will provide the reference points for the drafting of national and local budgets (annual and multi-annual) and for the formulation and promotion of Romania's proposals toward the preparation and approval of allocations under the next EU financial programming periods (2014-2020 and 2021-2027).

The planning of expenditure and the assessment of realistic prospects to gain access to various financing sources will also consider the current trends within the EU regarding market transparency and prices that reflect economic, social and environmental costs, the shifting of the fiscal burden from labour to resource and energy consumption or/and pollution, and the reform of subsidies (to be decided until the end of 2008).

The **financing sources** that are potentially available for the implementation of the objectives of the National Sustainable Development Strategy in accordance with the National Development Plan, the Operational Programmes and the specific action plans that have already been approved, are:

- The EU contribution through structural instruments (European Regional Development Fund, European Social Fund, European Cohesion Fund) to the "Convergence" objective and the "European territorial cohesion" objective, plus national co-financing from public sources (state budget, local administration budgets, foreign borrowing, other public sources) and corresponding private sources.
- Other structural funds of the EU (European Agriculture Fund for Rural Development, European Fisheries Fund) and corresponding national co-financing from public and private sources.
- Allocations exclusively from national and local public sources dedicated to investment for development programmes having objectives that are similar to those programmes that are co-financed from the above-mentioned Community funds.
- External borrowing for investment from international financial institutions (European Investment Bank, European Bank for Reconstruction and Development, World Bank, etc.) and other sources (sovereign funds, private investment funds, etc.) to support national projects that are congruent with the objectives of the National Sustainable Development Strategy and with the EU SDS.
- Other financial instruments such as continued encouragement of foreign direct investment, active utilization of capital markets, especially by launching initial public offers (IPOs), enlarging the lending base of the banking sector by encouraging domestic savings, developing long-term saving and investment instruments, concession of infrastructure and public utilities projects, promoting public-private partnerships, etc.

The financial programming for the National Development Plan 2007-2013 estimates investment requirements to the amount of Euro 58,673.10 million, in precise

compliance with the EU objectives for the allocation of structural and cohesion funds, as well as agriculture and fisheries funds. Out of this total, about Euro 32 billion can be financed through the structural instruments and the EU agriculture and fisheries funds, which have precise and certain destinations, provided the highest possible national absorption capacity is ensured. The balance is covered from the state budget, external borrowing and other sources.

Additional financing for the objectives of the National Sustainable Development Strategy can be tapped on a competitive basis for projects submitted by EU Member States, individually or through participation in consortia, by applying directly to the European Commission or to other EU funds that are not part of the structural or cohesion funds, such as:

- The EU Solidarity Fund, which provides financial assistance in case of disasters, including those due to climate change, with a total amount of Euro 1 billion per year for the entire Community;
- «Marco Polo II», a programme supporting the connectivity of different transport modes, enhanced environmental performance in transport and decongestion of urban traffic and of traffic on trans-European road networks, with a total allocated amount of Euro 450 million;
- The programme for competitiveness and innovation supporting the objectives of sustainable production and consumption, with a total financial allocation of Euro 3.62 billion;
- «Progress: Employment and Social Solidarity», a programme supporting the introduction of benefits and facilities to reduce unemployment, to curb discrimination, to encourage gender equality and to promote social inclusion, with a total allocated amount of Euro 743 million;
- The European Programme for Global Adjustment supporting professional conversion and repositioning on the labour market of employees affected by changes in global trade, with a total allocated amount of Euro 3.5 billion per year;
- The Life-long Learning Programme designed to facilitate the mobility of teaching staff and to strengthen links among continuing education and training units through programmes such as «Comenius», «Erasmus», «Leonardo da Vinci» and «Grundtvig», with an allocation of Euro 6.97 billion;
- The Seventh Framework Programme (FP7) designed to expand capacity for scientific research, technological development and innovation within the EU space as well as cooperation with partners in other regions, with a total allocation of Euro 53.272 billion;
- The programme for the Trans-European Networks aimed at facilitating mobility and free, sustainable circulation of citizens, goods, capital and energy among the Member States of the European Union, with a financial allocation of Euro 8.168 billion.

In addition to these EU programmes, Romania may also access funds allocated through the Financial Mechanism of the European Economic Area, which brings together the West-European States that are not part of the EU (Iceland, Lichtenstein and Norway); the funds are mainly targeted on the strengthening of institutional and administrative capacity, and on projects for environment protection and training. The total financial allocation amounts to Euro 50.5 million between 2008 and 2011, of

which the share of grants varies between 60 and 90%. Additional financial assistance can be obtained from bilateral schemes operated by EU Member States or other European countries (Norway, Switzerland).

4. Communication, mobilising actors and multiplying success

The adoption of the Romanian National Sustainable Development Strategy marks the beginning of a long-term process leading, in successive stages, to the establishment of a new development model in accordance with the worldwide strategic guidelines that were agreed in the framework of the United Nations and with the Directives of the European Union. Considering the importance of these commitments, the effort to bring the principles of sustainable development and the objectives of this National Strategy to the attention of all decision-makers and the public at large is not limited to a one-off publicity campaign. It must become a matter of continuing concern and must involve the active participation of all relevant actors: central and local authorities, political parties, business and professional associations, social partners, the educational and research systems, the civil society and the mass media.

Following the adoption of the National Strategy, a programme of concrete action will be drafted, including precise responsibilities and implementation deadlines with regard to information, communication and dissemination of best practice from Romanian experiences and from those of other EU Member States that are relevant for the implementation of sustainable development objectives. The orientation and coordination of the governmental Communication Programme and the administration of the public funds to be allotted to this end will be entrusted to the Interdepartmental Committee (see Part V) in close collaboration with the Consultative Council for Sustainable Development.

During the period immediately following the adoption of this Strategy, the following actions will be taken that have assured financing from the funds allocated for the preparation of the Strategy:

- The Romanian version of the National Sustainable Development Strategy will be published in book format and circulated to central and local authorities, political parties, parliamentary commissions, business and professional associations, labour unions, educational and research units, non-governmental organisations and other groups of the civil society, printed and audio-visual mass-media. A sufficient number of copies will be made available to the Ministry of Foreign Affairs to be distributed to the Romanian diplomatic and consular offices for the information of Romanian residents abroad.
- The Strategy will be translated and published in English for presentation to the European Commission and distribution to the European Parliament and other EU institutions, and also to other interested governmental and non-governmental institutions and organisations.
- The dedicated interactive websites that have operated exclusively for the preparation of the National Strategy will continue to function for at least three more months at the Ministry of Environment and Sustainable Development and at the

National Centre for Sustainable Development / UNDP in Bucharest, until that task is taken over by the future Interdepartmental Committee and the Consultative Council that will develop their own portals for this purpose.

- The institutions, organisations and persons that have participated in the preparation of the National Strategy will continue to be actively involved in the presentation of its objectives through public meetings with target groups (youth, business associations, labour unions, non-governmental organisations, etc.) and academic events (conferences, symposia, seminars) at national, regional and local levels, and through articles and interviews in the printed and broadcast media.

According to the specific recommendations of the EU Sustainable Development Strategy, the following measures are submitted to the attention of the Interdepartmental Committee and the Consultative Council for Sustainable Development to be included in the Communication Programme:

- To produce a layman's guide explaining the concept of sustainable development and presenting the principal objectives of the renewed EU Sustainable Development Strategy and the Romanian National Sustainable Development Strategy;

- To conclude agreements with the public radio and television networks targeting in particular the programmes having an educational content, with the aim to include presentations and debates on sustainable development; to buy advertising space on private radio and TV stations for broadcasting brief messages of public interest on subjects related to sustainable development;

- To use actively the regional and local networks that were formed during the implementation of Local Agenda 21 programmes and the methods of public consultation employed in that process for the dissemination of successful initiatives and best practice in the realisation of concrete projects at community level for the application of the principles of sustainable development;

- To encourage university senates to include among the recommended topics for bachelor, master and doctorate dissertations subjects that promote directly or indirectly the idea of sustainability and ecological responsibility, and to facilitate the publication of the best works of that type;

- To encourage local authorities and communities in Romania to participate in the EU campaign for sustainable municipalities and towns in order to promote exchanges of best practice and the preparation of qualitative standards, indicators and instruments (such as impact evaluations) for the concrete application of the principles of sustainable development at a local level; to award annual prizes for the most successful initiatives;

- To promote in Romania, with support from business associations, social partners, chambers of commerce and industry, the goals and practices of the European Alliance for Corporate Social Responsibility in order to launch voluntary initiatives by the business community going beyond minimal legal requirements.

- To undertake specific actions to ensure the complete and consistent application in Romania of the Aarhus Convention on access to information and public participation in decision making and recourse to justice with regard to environmental issues.

PART IV. ISSUES AND CONCERNS SPECIFIC TO ROMANIA

A number of aspects regarding the implementation of sustainable development principles are not tackled in the renewed EU Sustainable Development Strategy since those problems were basically resolved by the countries belonging to the original core of the EU many decades ago and thus are no longer object of priority concern. In Romania's case, certain indicators (e.g. structure of farmland property, access to drinking water distribution and sewerage networks, transport infrastructure, energy efficiency and resource consumption per GDP unit, labour productivity, general state of health, quality of professional training, etc.) are still inferior to the level of the majority of EU Member States. This section is intended to clarify precisely such problems that must be solved in parallel and simultaneously with the effort to achieve full conformity with the rules and standards of the European Union.

1. Risks and vulnerabilities caused by domestic and external circumstances

The implementation of the objectives of the Romanian National Sustainable Development Strategy may be affected by deviations caused by domestic and external factors. Some are foreseeable, although their impact is difficult to evaluate, quantify or place in time.

The model proposed for the long run is one of potentials, as the dynamic of development depends to some extent on resource availability and the overall conjuncture. Major deviations of national policies from the stated objectives and from the commitments undertaken by Romania as an EU Member State are improbable, but delays and lack of coordination in their implementation are possible.

The following can be regarded as main **endogenous risk factors**:

- Opportunistic adjustments of economic policies as a result of political instability and/or disregard of sustainable development principles, depending on the composition of parliamentary majority or the doctrines of political parties then in office;
- Delays in the implementation of an improved decision-making system and failure to enforce the accountability of public institutions for the results of the policies pursued by them, to use impact analyses and to apply systematic, proactive monitoring techniques;
- Continuation of negative demographic trends, deeper population decline and the occurrence of structural imbalances with far-reaching economic and social implications;

- Further growth of mistrust with regard to the impartial, transparent and expeditious administration of justice;
- Formalistic and ineffective cooperation of public institutions with the private sector (business associations), professional associations and social partners in the preparation and implementation of public policies and measures to enhance competitiveness through improved resource and labour productivity, export promotion and efforts to ensure macroeconomic balance;
- Patronage-based selection of priorities in the allocation of public funds at the expense of projects that have a potentially major, positive socio-economic and environmental impact and are based on a competent evaluation of the ratio between financial effort and effects in the medium-to-long term;
- Delays with regard to decentralization and to measures aimed at substantial improvement of administrative capacity, of the potential to generate projects that are eligible for financing in terms of economic, social and economic efficiency, and to execute such projects within the deadlines and on the terms set in the feasibility studies; further procrastination may reduce the rate of access to EU funds and may jeopardize the ability to cover the current account deficit;
- Limited effectiveness of policies aimed at continuing the disinflation process, which may have a severe negative effect on the macroeconomic balance and sustainable economic growth;
- Poor ability to anticipate the incidence of extreme weather events resulting from climate change (long periods of drought, floods, pandemics) and to take measures toward limiting their potential effects on public health and wellbeing, farming and food prices;
- Unsustainable upward trend of consumer debt and imports for current consumption;
- Income growth decoupled from productivity growth as a result of populist policy decisions taken during pre-electoral periods and of tensions on the labour market due to the deficit of experienced workers in certain areas;
- Belated implementation of adequate policies to reduce energy intensity and to cover energy requirements for economic activities and private consumption in a sustainable manner;
- Ineffective use of public funds earmarked for initial and continued training of human resources and for supporting research-and-development and innovation activities, which are key areas for sustainable development.

Some of the **external risk factors** to be taken into account are:

- The expansion of external migration beyond the limits of sustainability following the adoption by certain more advanced countries of immigration policies that have not only an economic dimension related to a workforce deficit in particular sectors, but also a demographic dimension, namely to mitigate the impact of low birth rates and population ageing;
- A stepped-up trend toward higher oil, natural gas and uranium prices that can have a severe impact on inflation rates and energy security;
- Uncertainties about the attitudes of foreign investors toward the emerging markets that are likely to be caused mainly by current account deficits and unpredictable fiscal policies, with negative effects on the amounts and quality of

investment in the productive sectors of the economy, and on the ability to use such sources in order to cover the current account deficit;

- Increasing cost of external financing as a result of international financial turbulence and of a possible downgrading of country risk rating, which may have undesirable effects on the exchange rate of the national currency and on inflation rate.

In order to identify risk factors and develop **crisis management** capacity, it is recommended:

- To build up a roster of risk evaluators and crisis management experts to be inserted in decision support structures;
- To develop, through foresight exercises, appropriate instruments for crisis prevention and management and for the mitigation of effects;
- To integrate Romanian specialists in the EU expert networks for crisis management, on the basis of professional competence;
- To prepare contingency plans in anticipation of system vulnerabilities and their potential effects in crisis situations, including portfolios of alternative solutions.

2. Sustainable growth: structural change and macroeconomic balance

This National Strategy is built on the premise that accelerated development in the medium and long run in its three essential components (economic, social and environmental) is not just one of the possible options, but an essential precondition for gradually closing the gap which still separates Romania, in terms of quality of life, from the EU average level within the shortest possible time and for ensuring real cohesion both nationally and in the broader EU framework.

The economic developments in Romania over the past 7 years (2001-2007), with an annual growth rate of the gross domestic product of more than 6% compared to the EU average of under 2%, demonstrate that it is possible to attain this objective. The fact that Romania joined the Single Market of the European Union, the improved business environment and ability to face competitive pressures, the consolidation of the private sector and the rising rate and quality of investment are encouraging factors that support the continuation of this process.

Continued growth of the GDP at average annual rates of 5.6-5.8% between 2008 and 2013, 4.8-5% between 2014 and 2020 and 3.8-4.2% between 2021 and 2030 is a realistic target. The figures are close to the estimated potential GDP levels for each period and compatible with the convergence criteria that Romania needs to meet in order to adopt the common European currency.

At a time when the free movement of goods and services and the effects of globalization become more widespread, eco-efficiency and competitiveness will be key factors of sustainable economic growth. The continued performance of the Romanian economy in the medium and long-term requires, therefore, effective

economic policy instruments that should make it possible better to manage and turn to account the existing potential in certain key areas that are essential for sustainable development in a competitive environment.

The main **medium-term economic objectives** that have been set in national development programmes in line with the targets of the revised Lisbon Strategy, the General Economic Policy Guidelines and the Stability and Growth Pact of the European Union, are:

- To maintain macroeconomic stability, to continue the process of disinflation and to limit current account deficits;
- To improve the predictability and performance of fiscal policy, to attract and use more efficiently the available European grant funds;
- To continue and deepen structural reforms, to provide improved healthcare, education, training, research and development services, and to pursue the necessary reforms in order to increase accountability and efficiency;
- To ensure the long-term sustainability of public finances;
- To improve the business environment, to promote entrepreneurial culture, to increase flexibility and participation in the labour market and to promote harmonious regional development;
- To pursue public administration reform.

An essential condition for meeting the objectives of sustainable development is to implement an adequate combination of coherent **macroeconomic policies** that should ensure the sustainable use of physical and energy resources for economic growth, the provision of financial resources for those investments that are strictly necessary for the modernization and increased competitiveness of economic sectors producing goods and services and of infrastructure, the continued training and improved performance of the labour force enabling it to respond to the demands of technical and technological progress. The analysis of Romania's economic progress during the past 18 years warrants the conclusion that, to this end, it is also necessary to address a series of crucial issues:

- An optimal combination of private initiative with rational public interventions relying on flexible policies aimed at correcting market dysfunctions. State intervention in the economy must target only those areas where market forces alone are more likely to waste resource or take longer to resolve the problems. Such interventions should be based on preliminary investigations and evaluations conducted in an impartial, independent and transparent manner;
- A significant improvement of the structure and functionality of central, regional and local public institutions, a more precise definition of their responsibilities and ability to cooperate in order to enable an accurate evaluation of their performance and to single out those areas where further measures to increase administrative efficiency at all levels are required;
- Stepped-up decentralisation in line with the principle of subsidiarity to be accompanied by measures to enhance administrative capacity and decision-making competences;

- Systematic pursuit of the objective of social cohesion as a precondition for sustainable development; periodic reviews, with this aim in mind, of wage, fiscal and social policies.

Without claiming to offer a substitute to the existing development programmes for Romania, this Strategy offers an outlook that is focused on long-term objectives which transcend the current planning timeframes and electoral cycles. It follows the logic of sustainability standards stipulated in European Directives and mainstream global trends.

2.1. Long-term sustainability of energy and material consumption within the support capacity of natural capital

The data presented in Part III, Chapter 1.1, indicate that primary and final energy intensities are at least three times higher in Romania than the current EU average. It follows that Romania has a significant potential to **reduce energy consumption**, mainly by increasing energy efficiency in the production and service sectors and by diminishing the considerable technical losses in the residential sector.

According to the national programmes for energy efficiency, it is anticipated that primary energy intensity could be reduced by approximately a third, from 0.555 tonnes oil equivalent (Toe) in 2006 to 0.377 Toe in 2013 per Euro 1,000 of GDP at constant prices (Euro 2000), and by an additional 23-24% (0.26 Toe) in 2020, thus attaining the EU average of the year 2006.

It follows that the estimated average annual rates of GDP growth from 2008 to 2020 can be achieved by decoupling economic growth from that of primary energy consumption.

To ensure the sustainability of the total physical resource consumption in step with the responsible management of the natural capital, a **significant improvement of resource productivity** appears to be the key priority. It is expected that relevant primary and secondary EU legislation may evolve towards setting more ambitious targets and more demanding regulations, in accordance with the renewed Lisbon Agenda.

An analysis of the performance of Romanian manufacturing industries in recent years shows, for example, that the energy and materials intensive sectors (iron and steel, oil processing, chemicals, building materials), which are also big polluters and account for some 25% of total production, reveals a downward trend in resource productivity as a result of increased intermediary consumption. The total resource consumption in the iron-and-steel industry increased by 48% from 2000 to 2005, while the value added went down by 2.6%. In the oil processing industry, a 12.4% growth in value added entailed a 50% increase in resource consumption. In 2005, total resource productivity was only 0.18 in the iron-and-steel industry and 0.34 in the downstream oil industries, compared to 0.55 for all manufacturing industries.

Similar examples of declining resource productivity can be found in agriculture and forestry. These sectors also have a significant potential for improvement within a reasonable timeframe through policies aimed at encouraging technological upgrading and increasing the share of high-value processed products for domestic consumption and for export.

The negotiation, at an early stage, of voluntary agreements with business associations (which is already common practice in some EU countries) and subsequent enactment of regulations providing for a partial shift of the labour tax burden to the taxation of consumption of material and energy resources could motivate companies to increase resource productivity. This would eventually have a positive impact on costs, competitiveness and sustainable use of resources.

Taking into account the anticipated considerable future increase in the import of primary energy and material resources, it appears necessary to prepare a special strategy aimed at diversifying the sources and ensuring the security of supply through long-term agreements.

2.2. Upgrading the economic macro-structure to accommodate social and environmental requirements

The enhanced share of services in GDP formation from 48.8% in 2006 to approximately 55% in 2013 and 60-65% in 2020 (close to the current EU average) and improved quality of services will also increase economic efficiency and competitiveness in the other sectors of the economy and will have positive social effects in terms of vertical mobility of the workforce, better skills and higher pay. The development of research, consultancy, expert advice, information technology, financial services and management training will contribute directly toward increasing the productivity of resource use in the economy as a whole due to the fact that the ratio between gross value added and intermediary consumption is significantly higher in the services sector than it is in agriculture, manufacturing or construction industries.

The adjustment of inter-sector structures will result mainly from the priority development of those sub-structures that produce high value added with lower resource consumption, with an emphasis on the use of renewable or recycled resources.

The manufacturing industries will focus on the acquisition of high and medium-grade technologies and on domestic production of such technologies, which bring about beneficial effects in upstream and downstream industries and can contribute significantly toward increasing the volume and efficiency of exports. Eco-efficiency and the use of the best available technologies (BAT) will increasingly become essential considerations in investment decisions, not only for public procurement but also in other sectors of the economy.

The most profound changes will take place in rural areas following the replacement within a single generation of archaic structures, farming practices and the very look of the Romanian village, while preserving its local identity and specific culture. The

development of the organic agro-industry, the engagement of local communities in environment rehabilitation and conservation, the motivation of those communities to be involved in the preservation of historical monuments and cultural heritage sites, the assured access to basic utilities and social services, the reduction and elimination of poverty, the improvement of communications and of market relations will contribute toward gradually bridging the urban-rural disparities in terms of quality of life.

Considering the need to take care of regional development, to absorb EU funding and to bring in supplementary investment, particularly for upgrading the utilities, transport and farming-support infrastructure, an enhanced effort is required to assemble and permanently to update a portfolio of viable projects, complete with professionally done pre-feasibility studies, which can muster the active support of decision makers and local communities.

2.3. Labour productivity growth and higher employment

Labour productivity in the entire Romanian economy (GDP per employed person) as well as at sector and enterprise levels (gross value added per employee) is still vastly inferior compared to the EU average. The relatively low level of Romanian wages, particularly at the lower end of the scale, can be explained in part by this productivity gap, which is reflected in approximately the same ratio between the quality of employment and the amount of disposable income.

The sluggish renewal of the technological base, poor quality of infrastructure, chronic under-financing, weak contribution of national research and development, substandard performance of the domestic products and services on the market, inadequate ability to adapt to globalization have been the main causes of unsatisfactory labour productivity and poor returns on the resources used. Although the rate of labour productivity growth in Romania, especially in the processing industries and construction business, has been higher than the EU average in recent years, the difference is still very high.

Since resource productivity (amounts used versus returns) and labour productivity are the main determinants of efficiency and competitiveness and, implicitly, of the sustainability of economic and social development, significant efforts will be required in terms of investment and managerial expertise to remedy the present situation and to match the current EU standards. The urgency of such measures is underscored by the unfavourable demographic developments which tend to get worse in the case of Romania.

Concurrently, it is necessary to improve the employment rate of the potentially active population; between 2002 and 2006, Romania had a rate of 57.9% compared to the EU average of 63.1% for the same period.

Focused investment in human capital development can produce an estimated employment rate for the population aged between 15 and 64 of more than 62% in 2013 and continue on an upward trend in the following period (up to 64-65% in 2020).

2.4. Better micro- and macro-economic management

In the following period, it is crucial to achieve considerable improvements in the quality of economic management at all levels - from national to regional to enterprise to farm – in order to make sure that the available capital resources are used efficiently and completely and to attract supplementary financing resources for investments in modern technology, training and professional upgrading of the labour force, scientific research, technological development and innovation. Inasmuch as the sustainable growth of the gross domestic product relies on the value added that is created by individual businesses, better managerial performance is crucial in every unit producing goods and services and has to cover all the key links: administrative, technical, technological, financial, logistical, commercial, and human resources management.

It is appropriate, therefore, to set specific performance benchmarks for public sector managers and to encourage the application of similar standards in the private sector. The stockholders and management boards will have to take responsibility for monitoring management performance relying on a minimum set of standards such as the increase of value added, competitiveness and profit.

It is also envisaged to re-evaluate the procedures concerning the depreciation of physical assets in correlation with technological progress in every branch of the economy in order to prevent the technical obsolescence of equipment, which causes increased consumption of energy, materials and labour resources and has a negative impact on competitiveness.

The implementation of multi-annual budgeting, at least in the medium term, as standard practice for companies appears to be necessary in order to provide a long-term outlook of development prospects, to formulate efficient investment policies, and to tailor the production volumes and structure to anticipated market trends.

2.5. Investment policy and diversification of financing resources

The specific development needs of Romania, combined with the need to achieve full compatibility with the EU mainstream in terms of economic, social and environmental policies call for an active and responsible involvement of central and local public authorities, the private sector, professional associations, social partners and the civil society in maintaining a business environment that is favourable to native and foreign capital investment for the modern, sustainable development of the country.

Keeping up investment rates that are higher than those in the mature economies of the EU is absolutely necessary in Romania's case in order to achieve convergence in real terms. The upgrading of energy, transport and urban infrastructure (safe water and sewerage), educational and public health services, rural development and bridging the technological and digital gap require a considerable investment effort. While in most of EU countries such problems were resolved decades ago, for Romania they represent essential priorities today.

In order to increase the investment rate in the medium and long run, it is necessary to continue the current policies aimed at attracting foreign direct investment, with a particular emphasis on those types of investment that are likely to contribute substantially to export capability, so that exports become the main vehicle of economic growth. The progress of foreign direct investment in the past four years (2004-2008), showing an annual average of Euro 6.2 billion, is likely to keep steady at comparable levels during the following period, even in the absence of large privatizations, by focusing primarily on greenfield investments.

To secure the required financial resources for public and private investment it will be necessary to increase the national savings rate gradually, from 15.3% in 2007 to over 20% in the following period, as a result of a levelling off of consumption trends.

The development of saving instruments, in line with the practices that have been successfully applied in other EU countries, may include: a free market for tradable government securities, public and corporate bond issues, long-term investment funds accessible also to physical persons, a regulated mortgage market allowing for free trading of titles and collaterals, support for collective investment instruments such as private pensions and life insurance funds that could mobilize important financial resources through long-term commitments (15-20 years), encouraging savings banks to expand their activities in rural areas.

It is also useful to consider the costs and benefits of resorting to fiscal instruments in order to encourage saving, such as reducing or renouncing taxation of accruing interest on private savings held by banks. This makes sense, since maintaining the current level of taxation discourages savings inasmuch as the purchasing power of deposits reaching maturity is, in some cases, lower than that of the deposited amounts. Other measures could include a reduction of taxes levied on reinvested profit, which is apt to stimulate capital spending supporting the improved competitiveness and eco-efficiency of products and services and to reduce current consumption generated by the spending of dividends.

Expanded use of the capital market by listing those companies in which the state is still a significant shareholder and improved market regulation can bring in considerable amounts of capital to provide additional financing for the timely completion of large infrastructure projects, with positive social and economic effects that would also support regional development.

The development of public-private partnerships must not be limited to concessions, although they must be further encouraged, provided the economic and financial terms fit the requirements of sustainable development. The establishment of new companies to be capitalized partially through initial public offers (IPOs), in which the central or local authorities still have a minority stake in the company that finances and operates the business, but which could be further capitalized through public listing on the stock exchange, may provide an additional solution for diminishing the initial expenditure from the state budget and the maintenance costs after commissioning, especially when it comes to infrastructure investments. A lower share of public money is also likely to curtail the opportunities for corruption and to enhance the economic effectiveness of investments.

Complete and efficient use of funding coming through EU programmes can substantially increase the investment rate and help reduce the current account

deficit, considering the fact that the contribution of European funds amounts to 2.5% of the Romanian GDP in 2008 and will grow to above 3% between 2010 and 2013, while Romania's contribution to the EU budget is only 0.98% of GDP in 2008 and will go down to between 0.7% and 0.8% by 2013. It is estimated that the complete absorption of structural and cohesion funds will contribute an additional 15%-20% to the GDP growth by 2015.

It is necessary to improve substantially the ability to produce eligible projects and to provide consultancy services and expertise at regional and local levels through such measures as: enhancing the role of existing regional and local development agencies; bringing into such structures and motivating highly qualified experts in areas that are relevant to the specific opportunities in each region; producing an inventory of existing projects, evaluating their feasibility and adding to the project portfolios, besides investments in infrastructure and basic public utilities, also projects initiated by the private sector; engaging the research and development units and universities in the development of such projects, including the involvement of graduate and post-graduate students who could submit dissertations on such subjects in order to develop their entrepreneurial spirit and to encourage them to start their own businesses after graduation; producing analytical studies aimed at enhanced project management performance, better evaluation of the future workforce requirements by types of skills and abilities, and ways to meet the demand through initial and further training.

2.6 Maintaining macroeconomic balance

Sustainable economic growth, defined by the annual average growth rates of the gross domestic product and by the ability to meet the operational targets of this Strategy within the time horizon of 2030, is conditional on the implementation of a coherent set of adequate economic policies in keeping with the agreed objectives at EU level, in particular those of the revised Lisbon Strategy.

For the period 2008-2013, the objectives regarding the progress of basic indicators and macroeconomic balances were included in the Convergence Programme, which gives priority to the fulfilment of performance criteria required for the adoption of the common European currency by 2014. The Programme evaluated the possible impact of certain external factors (turbulence in international financial markets, rising food prices, the highest increase of oil prices in the past 25 years, the relatively small changes in the forecasts for economic growth globally and in the EU) as well as domestic developments (lower agricultural output because of drought, higher disposable incomes insufficiently supported by productivity growth, larger consumer credit, continued growth of imports, low savings rate). Those factors had negative effects on the sustainability of disinflation, the trade balance, the current account, the stability of the national currency and the cost of external financing. In this context, economic policies had to be reconsidered with an aim to keep macroeconomic balances within reasonable limits and to meet the requirements for real and nominal convergence until 2012.

Monetary and exchange rate policies will aim at reducing inflation from the second half of 2008 onwards. Inflation targets for 2008 are between 3.8% and 4.8%

and for 2009 between 3.5% and 4.5%. It is envisaged that inflation rates will fall within convergence limits in 2012 to 2013 and stay in that range afterwards. Higher exchange rate stability is expected in the medium term as a result of anticipated compliance with convergence criteria.

Considering the significant GDP growth, increasing labour productivity and productive capital in-flows in the past six years as well as the projections for the next period, it can be anticipated that the appreciation of the national currency against the Euro will continue, but within moderate limits and without shocks.

By managing the liquidity on the monetary market, the National Bank of Romania will seek to consolidate the role of base-rate as an instrument of monetary policy and to enhance its ability to influence inflationary expectations by the time of Romania's entry in the Euro zone (2014), when the main responsibility for monetary policy will be transferred to the Central European Bank.

The national budget and fiscal policy will be maintained within prudent limits in order to reduce external imbalances and to sustain disinflation. It is anticipated that the continued promotion of a favourable business environment and the increased flexibility of the labour market will further enhance investment, labour productivity and competitiveness.

The national budget policy will give priority to programmes aimed at eliminating structural weaknesses in areas such as infrastructure, education, health, research and development and innovation, while maintaining budget deficits within conservative levels through improved tax collection and more efficient spending of public money.

Structural budget deficit will go down to 0.9%-1% of the GDP in 2011, thus falling within the provisions of the revised Growth and Stability Pact, with a sufficient safety margin to avoid reaching the 3% limit under possible unexpected pressures.

In the sphere of infrastructure (for energy, transport, environmental services) and, through differentiated approaches, in other sectors the financial and fiscal policies will mirror accepted EU practice for encouraging investment and enhancing its economic and ecological efficiency. Fiscal policy will be focused on simplifying the system by reducing the number of taxes and imposts, and on encouraging employment through fiscal measures and partial transfer of taxation from labour to energy and resource consumption.

The **current account deficit and the policies to secure financing resources** will continue to be matters of primary concern, at least for the short and medium term.

The unfavourable record of the balance of payments during the past few years was mainly caused by a negative trade balance as a result of a much higher growth rate of imports compared to exports. Although exports showed a satisfactory trend, with annual rates of growth between 15.4% in 2002 and 14.7% in 2007, exceeding substantially the dynamic of production of goods and services, imports grew at an even faster rate. As a result, the current account deficit rose from 3.3% of the GDP in 2002 to 10.4% in 2006 and 14% in 2007.

Taking into account the stability at a low level of the budget deficit together with the much lower share of external public debt as related to the GDP in comparison with other countries, it can be estimated that, by applying adequate economic policies, the current account deficit (as percentage of the GDP) could be reduced in the following years. The main ways to cover the deficit, while avoiding more volatile financing methods (direct borrowing or portfolio investment) that could expose the national economy to risks resulting from possible global shocks, are: to increase substantially the absorption rate of EU funds from Euro 1.5 billion in 2007 to over Euro 4 billion in 2009 to 2013; to maintain the contribution of foreign direct investment at levels that are close to those of the past two years; to reduce the trade deficit through active measures to encourage exports and moderate the growth of imports.

It is estimated that, by reducing the negative influence of net exports on GDP growth, which amounted to 6.2% in 2006 and 8.7% in 2007, that figure will go down to maximum 3.5-4% in 2013 and will stay below this limit throughout the 2011-2030 period.

3. Regional development and local action; specific rural development issues

According to the European Commission regulations of 2003 regarding the establishment of a common system for the statistical classification of territorial units, which was transposed into the Romanian legislation as early as 1998 and further adapted in 2004, Romania comprises 8 development regions, each including 4 to 7 counties (except Bucharest-Ilfov region). In Eurostat classification, these regions are NUTS II level units and represent the spatial framework for statistical data collection. The Regional Development Councils are formed of representatives of the county and local authorities and have the Regional Development Agencies as executive bodies.

All development regions of Romania, including Bucharest-Ilfov, have a GDP per capita below 75% of the Community average and are eligible for financing from the EU Structural Instruments under the Convergence objective.

Viewed from the angle of sustainable development principles and objectives, regional trends are of crucial importance. In Romania's specific circumstances, this importance is even higher considering the growing territorial disparities in terms of economic and social development, rational use of resources and the quality of environmental infrastructure.

Thus, against the national average (100), the GDP/capita in the North-East region was 79.8% in 1998 and 68.4% in 2005, as compared to the Bucharest-Ilfov region (162,2% in 1998 and 212,5% in 2005); in the South-West region the unemployment rate was 104,8% in 1998 and 125,4% in 2005 compared to 47.1% in 1998 and 40.7% in 2005 in the Bucharest-Ilfov region, while the share of rural population increased in the South Region from 129% in 1998 to 129,3% in 2005, but it decreased in the North-West region from 83.8% in 1998 to 80.7% in 2005. Of the overall foreign investments that had come in by 2006, 64.3% (Euro 22.2 billion out of a country total of Euro 34.5 billion) were registered in the Bucharest-Ilfov region,

as compared to only 2.7% in the South-West region and to 1.2% in the North-East region.

In comparison to the other European Union Member States, including those which acceded in or after 2004, Romania has the highest share of rural population (45.1% of the total in 2005), out of whom one third were employed in farming. The population employed in agriculture is subject to an advanced process of ageing: 33.7% over 55 years, 36.3% between 35 and 54 years and only 30.0% between 15 and 34 years old in 2006.

The draft Post-Accession Strategy of Romania (2007) listed the characteristic features of the current state of Romanian agriculture and rural areas: wide fluctuations in farming output and generally low performance, excessively dependent on weather conditions; perpetuation of an agrarian structure dominated by fragmentation of land property and a permanent shortage of working capital; extremely low opportunities for capitalization; poor market access of the vast majority of farms; a significant surplus of labour force in individual farmsteads; the level and spread of poverty in the rural areas; the state of infrastructure, health care and formal and continuing education and vocational training system in the rural areas. By way of consequence, Romanian agricultural producers have continued to occupy a peripheral position in a European context with respect to economic performance, while their competitiveness in international exchanges has constantly gone down, as attested by the dynamics of trade balance in farming and food products.

3.1 Regional development

The debates on the successive drafts of this Strategy that took place in the eight development regions of Romania confirmed the findings of the Regional Operational Programme 2007-2013, which was adopted in April 2007, regarding the weak points identified at region level:

- Concentration of economic growth and of foreign direct investments around the city of Bucharest and increasing disparities compared to the other regions, accompanied by worsening congestion of the capital;
- Socio-economic decline of a significant number of large cities and their diminished role in the development of the adjacent areas and of the regions;
- Increasing demographic imbalances at regional level, with severely altered age structure and population ageing, showing an alarming trend especially in the southern part of the country;
- Loss of urban functions in many small and medium towns, especially in mono-industrial localities that were affected by restructuring and the resulting deterioration of social problems;
- Re-emergence of the historical development imbalance between the eastern and the western parts of the country, economic decoupling of traditionally under-developed areas in the eastern and northern parts of the country as well as in the areas along the Danube;

- Poor accessibility of certain areas, with a negative impact on local development;
- A labour force deficit in large areas, due to decreasing population, massive temporary migration and ageing, adding pressure on social and health services;
- Potential economic stagnation in mountain areas;
- Low competitiveness of many businesses, especially in tourism, poor level of labour productivity and capital investments, lack of managerial skills, low degree of modern technology use;
- Poor quality of public infrastructure, degradation urban utilities, inability to preserve historical and cultural assets;
- Limited experience and ability of local public authorities to manage complex sustainable development programmes including the economic, social and environmental components.

These observations provided the background for the measures to be taken by regional, county and local authorities with a view to remedy and significantly improve the situation in the short and medium term.

Horizon 2013. Strategic Objective: To support sustainable and territorially balanced economic and social development of the Romanian regions according to their specific needs and resources by concentrating on urban poles for growth; improving infrastructure and business environment so as to make Romanian regions, especially those lagging behind, more attractive places to live, visit, invest in and work.

For this purpose, the provisions of the Regional Operational Programme will be implemented, following the **specific objectives**:

(i) To enhance the economic and social role of urban poles by adopting a polycentric approach with a view to a more balanced development of the regions.

It is envisaged that funds allocated to urban development be spent as follows: 60% for urban public infrastructure, 25% for social infrastructure and 15% for improving the business environment.

Considering previous EU experiences (URBAN I and URBAN II programmes), the main instrument for intervention will be the **integrated urban development plans**, organically combining economic, social and environmental elements according to sustainable development principles. Such plans, to be prepared in a broad participative framework and involving all relevant actors, shall comprise projects addressing the following types of actions:

- Rehabilitation of the urban infrastructure and improvement of municipal services, including transport, by means of: physical and functional renovation of buildings having historical, cultural or artistic value; planned demolition of abandoned structures or badly deteriorated buildings that are not listed as belonging to the national heritage; modernisation of public areas and related infrastructure (street network, pedestrian areas, sidewalks, public lighting, etc.); rehabilitation of polluted sites (abandoned industrial areas, vacant lots); regulation of car traffic in

order to reduce city congestion (traffic lights, street signs, parking lots) and sustainable modernization of urban transport.

- Development of the business environment by cultivating entrepreneurship, improving business infrastructure and supporting economic activities that make optimal use of the local human and material resources.
- Modernisation of social infrastructure by means of physical and thermal rehabilitation of multi-family housing owned by the city administration and support for house owners' associations to undertake such work; provision of premises and proper endowment for social services (child-care centres, old people's homes, centres providing assistance to disabled persons, youth centres, etc.); measures in support of public order and citizens' safety.

By 2015, integrated urban development plans will be implemented in 30 localities, benefiting about 400,000 people; 400 companies will receive support to set up business leading to the creation or preservation of 1,500 jobs.

(ii) To improve access to regions, in particular to urban centres and to provide links to neighbouring areas.

Besides the targets mentioned in Part III, Chapter 1.2 (Sustainable transport), the county road network will be rehabilitated and upgraded over a length of 877 kilometres and the urban street network (411 km) by 2015, the ring roads (up to 219 km) will be built or upgraded, leading to an increase of road freight and passenger traffic by 10%, while improving safety conditions.

Taking into account the specific needs resulting from the development level of each Romanian region and considering that the regions have an insufficient and uncompetitive transport infrastructure, which does not meet the requirements of the EU Single Market, it is expected that the profitability, value added and lateral benefits of investments in infrastructure will be considerable.

(iii) To improve the social infrastructure of the regions.

The measures and targets that are envisaged in the short and medium term in order to decentralise health and education services, to improve their effectiveness and to strengthen the accountability of regional, county and local authorities are detailed in Part III, Chapter 1.5 (Public health) and Chapter 2.1 (Education and training).

(iv) To strengthen the regional and local business environment, with the following key areas of intervention:

- Development of sustainable business support structures of regional and local importance, drawing on the positive experience of the industrial park projects that were financed under the PHARE CES 2004-2006 programme: building, rehabilitation or expansion of buildings devoted exclusively to production and service activities, except for those hosting business incubators; rehabilitation and expansion of the street networks within the business structures and of access roads; provision of basic utilities (water treatment plants, energy and gas supply, sewerage systems) and

broadband cabling and connection; demolition of redundant buildings inside business areas, rubble and waste removal, garbage collection services; promotion activities.

- Rehabilitation of unused polluted industrial sites and preparation of such sites for new activities (brownfield development): clean-up and ecological rehabilitation; demolition of unusable buildings and levelling the ground; rehabilitation and expansion of buildings that can be used for production or services; making the public utility infrastructure fully operational; cabling and Internet connection, etc.

- Support for the development of micro-enterprises in order to revitalize the underdeveloped areas, especially small and medium-size towns, with a view to using the specific potential of the regions (natural resources, raw materials, human resources) and promoting new technologies and innovation by facilitating the acquisition of state-of-the-art technologies for production, services and construction, as well as of digital equipment and software; re-locating the micro-enterprises into business structures; providing logistical services.

By 2015, the Programme foresees the development of 15 business structures, the rehabilitation of polluted industrial sites in an area up to 500 hectares, the setting up of 1,500 micro-enterprises leading to a 50% increase of the employment rate in business structures two years after the completion of each project, the creation of 4,000 new jobs in business structures and 3,000 more jobs following support to micro-enterprises.

(v) To support the sustainable development and promotion of tourism through measures aimed at turning to good account those elements of the cultural heritage and natural resources that have a potential for tourism, and improving the quality of accommodation and leisure infrastructure in order to increase the attractiveness of the regions, to develop local economy (trade, construction, transport, catering, small industries and crafts) and to create new jobs:

- Restoration and promotion of cultural heritage and development or upgrading of related infrastructure.

- Development and upgrading of tourism infrastructure in order to capitalize on natural resources and to improve the quality of tourism services by opening access to natural sites that have a tourism potential (canyons, gorges, caves, glacial lakes, the Danube Delta and other wetlands, etc.), while constantly monitoring the pressures on the environment in compliance with the management plans for NATURA 2000 network; enhancing the commercial value of mountain tourism by improving access ways, camping sites and alpine shelters, signposting hiking paths, setting up mountain rescue posts (Salvamont); development of spa tourism; establishment, upgrading and expansion of accommodation and leisure facilities, as well as of the related utilities.

- Promotion of tourist potential and development of the necessary infrastructure in order to increase Romania's attractiveness as a tourist destination by projecting a positive image of Romania, shaping and promoting the national tourism brand, developing domestic tourism through a more diversified offer of services and specific marketing activities, including the establishment of an integrated national tourist information service and statistics system online.

By 2015, it is envisaged to implement 400 projects addressing tourism infrastructure, to render support, directly or indirectly, to 350 tourism and travel companies, to organise at least 10 national and international campaigns for the

promotion of Romania's tourist brand. At least 10 national tourism information and promotion centres will become operational. The above measures are expected to create 1,000 new jobs.

In addition to the specific provisions of the Programme for spa tourism, it was suggested to expand and diversify the offer of natural therapy procedures in spas, to develop a network of spa centres offering complex wellness services, to promote the original Romanian medication and treatment procedures for senior citizens.

In order to accomplish the objectives of the Regional Operational Programme 2007-2013, the eligible expenditures may be financed up to 85% (about Euro 3.7 billion) from the European Regional Development Fund, with national public co-financing of 15% (Euro 657.53 million) and an estimated financial contribution from private funds of Euro 153.32 million.

Horizons 2020 and 2030.

Existing strategies and programmes regarding the development of the regions do not indicate specific projects beyond the current EU financial programming exercise for 2007-2013, except for some specific targets for the year 2015.

3.2. Rural development, agriculture, forestry and fisheries

The legal dispositions, programming documents and executive decisions in these areas are correlated with the EU directives and Community regulations, as well as with Romania's national strategies sectoral programmes.

Horizon 2013. National Objective: To enhance the economic vitality of Romania's rural areas while maintaining the social balance by means of the sustainable development of agriculture, forestry and fisheries, including the related processing industries to meet optimally the demand for food and to preserve and improve the natural resource base.

By 2013, Romania is expected to implement the European agricultural model, which is characterized by viable, market-based production structures, while supporting rural development and environmental protection. Measures will be taken to support producers so as to enable them to adapt farming practices to the consequences of climate change inasmuch as these changes will affect the level and variability of crop yields and the numbers of livestock. Production chains will be established, including chains for the sustainable production of biomass and biofuels.

Special attention will be given to the development of food production for niche markets, as well as ecological and traditional products in those areas that offer favourable conditions. Measures shall be taken to protect the brands of specific Romanian products, recipes and preparation procedures on the EU Single Market, while complying with the food safety regulations, and to ensure appropriate promotion.

The **main objectives** for the following period are:

- Developing a competitive environment in agriculture, forestry and fisheries based on knowledge and private initiative;
- Reducing the proportion of the population employed in agriculture along with strengthening the economic viability of farming units;
- Reducing the fragmentation of farmland property and stimulating the concentration of small farms;
- Maintaining quality and diversity of rural space and forest estates in ways that maintain a proper balance between human activities and the conservation of natural resources.

The provisions of the National Strategic Plan for Rural Development 2007-2013 will be implemented following the following main directions for action:

(i) To improve competitive strengths of the agricultural, forestry and fisheries sectors:

- To enhance the competence of farmers and other persons involved in agriculture, forestry and fisheries so as to encourage better management;
- To improve the competitive performance of commercial and semi-subsistence farms, to encourage cooperation and association among them in line with sustainable development principles, to support the pooling of producers into integrated production chains; to speed up the structural adjustment of semi-subsistence farms and to encourage them to enter the market; to promote modern farming practices; to facilitate the emergence of young farmers and the replacement of the current generation of managers of agricultural or forestry units by resorting also to early retirement; to increase the ability of farms to adjust to market conditions and environmental requirements;
- To restructure and upgrade the processing and marketing of agricultural, forestry and fisheries products so as to enhance added value while ensuring sustainability and relative stability of prices; to support integrated development by means of setting up and strengthening food production chains, improving product quality and effective performance of food industries; to improve forest management and wood processing efficiency; to ensure rational and responsible exploitation of the fisheries.

(ii) To improve environment quality in rural areas, consolidating the application good practice in agriculture, forestry and food industries in order to ensure consumer safety:

- To ensure continued use of suitable farmland in depressed areas and to promote sustainable agriculture in order to maintain the vitality of rural settlements in the mountain areas and in other less propitious locations;
- To preserve and improve the condition of natural resources and of habitats by encouraging the use of farming methods that are compatible with environmental protection, conservation of biodiversity, improved quality of water, soil and natural landscape; to grant compensation payments to farmers for the disadvantages resulting from the implementation of Natura 2000 network in keeping with the EU

directives on the impact of greenhouse emissions and climate change, on the protection of birds, and on the conservation of natural habitats and wildlife;

- To promote the sustainable management of forests by enlarging the wooded areas that have an important role in protecting the water and soil resources and biodiversity against destructive natural or man-made impacts; to develop the recreational functions of the forest; to provide compensation to the owners of forest estates for the disadvantages caused by conservation measures in protected areas.

(iii) To encourage the diversification of rural economy and to improve the quality of life in the countryside:

- To maintain and develop economic activities and to increase the number of jobs by diversifying non-agricultural employment and encouraging small-scale entrepreneurship in the countryside; to set up, improve and diversify economic development facilities and tourist attractions;

- To increase the attractiveness of the rural areas and reduce the migration of young people to urban centres by developing modern physical infrastructure; to improve social, economic and environmental conditions; to protect and preserve natural and cultural heritage in the countryside; to diversify the offer of tourist services;

- To develop the skills and competences of the local actors for good management, local spatial planning and modern development of villages.

(iv) To start the implementation of local development initiatives:

- To introduce the bottom-up concept of action in the administration of rural communities, which should ensure a high degree of spatial economic and social integration, supported by the organisation of local action groups;

- To promote the participation of rural communities in the drafting and implementation of local development strategies and to encourage innovative actions; to encourage local actors to work together with other local communities in Romania or abroad for the accomplishment of joint projects;

- To improve local administration by means of developing abilities to prepare and manage projects, including projects implemented in partnership, and to mobilize citizens' participation in the decision-making process; to capitalize on the potential of the LEADER programme and on the financial resources allocated in this framework for rural development and for supporting local action groups.

The "Farmer" Programme, which was started in 2005, will be continued for some time to support investments in agriculture and in product processing, storage, preservation and marketing.

The harmonization of national legislation with the relevant Community *acquis* will be completed by 2013; the appropriate national structures corresponding to the EU ones will become fully operational.

Besides the objectives included in the National Rural Development Plan 2007-2013, the following **additional measures** are recommended:

- To prepare, in collaboration with the academic community, and to implement a **National Programme for Sustainable Forest Management** with a view to prohibit the reduction of forest areas, to increase the total wooded area with at least 200,000 hectares through reforestation, particularly on degraded or abandoned land. Additional interventions are needed to develop a national system of tree belts especially in drought-prone areas at risk of desertification; to promote intensive treatments based on natural regeneration that are best suited to preserve the valuable native species of trees and to enable the forests to fulfil their multiple economic, social, ecological functions in a sustainable manner.

Active intervention is required to enforce the legal dispositions banning razed logging, to expand the area of woods that serve to protect watersheds, soil, climate, landscapes or biodiversity in the system of protected natural areas; to adjust the practice of forestry to the effects of global climate change; to apply optimal age standards for logging and to combat the harvesting of younger trees in order to get an artificial increase of timber production; to preserve biodiversity at all levels: genetic, species, ecosystems and complexes of ecosystems; to integrate virgin and quasi-virgin forests in protected natural areas; to proceed with the reconstruction of damaged and economically or ecologically dysfunctional forests; to tend to young forest growth and to conserve dead wood within prescribed limits according to EU practice; to develop an integrated and participative management of torrent basins in mountain areas; to increase the accessibility of forests; to compensate the owners of forested areas for the disadvantages that may result from the inclusion of forests in the categories having special protection functions or those that are designated as protected natural areas; to provide public support for the sustainable management of privately-owned forest areas of under 30 hectares.

- To speed up the preparation of a **medium to long-term programme for the upgrading of irrigation systems** through the rehabilitation of the existing ones and building new systems based on the best available technologies; to establish the required investment resources for each stage and to identify funding sources. Such actions have acquired priority status in the context of global climate change, higher frequency and intensity of drought and expanding desertification, in parallel with increasing scarcity of available water resources. The programme will need to contain provisions to optimize water use in agriculture, which accounts for approximately 70% of the total water consumption.

- To implement the **Strategy for the sustainable development of Romanian mountain areas**, which are ecologically fragile and face significant natural and social challenges; farming in those areas requires strenuous efforts, imposes restrictions on certain economic activities and land uses and entails higher operational costs due to altitude, steep gradients and harsh climate conditions with shorter vegetation periods. The protection and responsible use of mountain resources, taking into account the effects of climate change, together with the implementation of the objectives established in the relevant Strategy, which was approved by the Romanian Government as early as 2004, are designed to prevent the depopulation of those areas and the degradation of specific traditions, crafts and cultural features. State support will be required in order to provide the means for the balanced development of high mountain zones on a par with other areas in terms of income and living conditions.

The financial resources for meeting the objectives in the National Strategic Plan for Rural Development amount to about Euro 9.97 billion, of which 80.46% come from EU co-financing through the European Agriculture and Rural Development Fund.

Additional Community funding includes Euro 5.5 billion for direct payments to farmers, Euro 248 million for market-support measures and Euro 230 million for fisheries. Between 2007 and 2013, about Euro 14 billion will be transferred from the Community budget for agriculture, fisheries and rural development in Romania. Significant amounts will be added to this from the Romanian state budget.

Horizon 2020. National Objective: To strengthen production structures in agriculture and forestry while promoting the economic and social development of the rural areas in order further to reduce the existing disparities and to attain the current average performance level of the other EU Member States; to establish Romania as a stability factor for food security in South-East Europe.

To this end, a new action programme for 2014-2020 shall be prepared during the preceding period; it will be based on the principles of sustainable development and will set specific targets for the improvement of environmental conditions (measures to combat soil degradation, to protect the areas at risk of flooding, to maintain an adequate and sustainable level of the crops, to support depressed areas, to improve landscape quality), the increased competitiveness of certain sectors that have an impacting on the environment (to make use of renewable energy sources, to improve the management of water resources, wastewater, solid waste, fertilizers, pesticides and herbicides), the improvement of rural life quality (higher incomes resulting from better performance in agriculture, forestry and fisheries, expansion of public services and utilities, diversification of non-agricultural activities and entrepreneurship).

The programmes for sustainable forest management will continue with additional re-forestation and ecological reconstruction of damaged forests and forested land affected by degradation phenomena..

Measures shall be further taken to improve farmers' training and their management abilities, to enhance the capitalization of local natural resources, to improved work security standards, to encourage environmental initiatives and to secure better animal hygiene and welfare.

The envisaged actions will take into account the possible changes in the implementing mechanisms of the EU Common Agricultural Policy after 2013.

Horizon 2030. National Objective: To achieve full implementation of the Community policies and practices in agriculture, forestry and fisheries; to complete the restructuring and modernization of these sectors and of the rural areas.

During that period, a high level of competitiveness will be reached in the agriculture and food sectors; they will become compatible with the Western European farming model following the establishment of viable agricultural structures, the modern development of rural economy, the diversification and improved quality of products. Romania will overcome the productivity gaps in the farming sector and will come close to the European standards in the food processing industries. Food safety rules will be fully observed in accordance with the Community eco-conditionality requirements.

Following the application of a coherent multi-annual forestry programme, the share of wooded areas will grow to 34% of the national territory in 2030, opening the prospect to reach the optimum level of 45% further on.

The measures to be taken and the necessary financial resources will be determined, following the evaluation of the results obtained in the preceding period, on the basis of specific studies that will consider various possible scenarios, including the amount of required investments for each programme and objective.

3.3 Implementing Local Agenda 21

The systematic application of the principles and practices of sustainable development began in Romania already in 2000 through the implementation of concrete projects at a local level, which were initiated and co-financed by the United Nations Development Programme – Romania within the framework of Local Agenda 21.

This process was instrumental for strengthening the capacity of local administrations in the regions and localities taking part in the programme to draft and implement concrete policies and plans aimed at promoting sustainable socio-economic development by means of:

- The establishment of a participatory framework involving all local actors in the decision-making process for the sustainable development of their communities. Alongside the local authorities, representatives of the public sector, including the decentralized agencies, of the private sector, professional associations, educational establishments and research units, trade unions, non-governmental organisations or other groups of the civil society, and the media were also involved in structures that remained functional even after the completion of each project.
- The development of local networks and partnerships, which enabled them to concentrate resources and better to capitalize on the local potential. This was made possible by the use of the participatory mechanism, but it also involved an effective communication and information system.
- The preparation of three main types of instruments aimed at orienting and promoting a realistic and responsible view of the local development prospects: (i) a **local strategy** for sustainable development setting out medium and long-term objectives; (ii) an **action plan** describing the sequence of steps to be taken in the short and medium run for the accomplishment of strategic objectives and comprising an evaluation of costs, the identification of financing sources and the means for gaining access to funding, and (iii) a **portfolio of projects** that were viewed by the entire community as priorities to ensure the sustainable development of the locality or the region.
- Building the institutional and administrative capacity at the level of local authorities and the civil society for the promotion of sustainable development.

The Local Agenda 21 programme was initially implemented at the level of medium to large municipalities and was further diversified both through expansion to county

level and through restricting the scope of projects to township or rural community level.

Between 2000 and 2003, the project methodology was developed and the first LA 21 documents were drafted for 9 pilot municipalities. The results of that phase were appreciated both at the level of local authorities and communities and at the level of central government, especially due to the quality of the contributions that resulted from public debates, which were taken into account in the drafting process for the National Development Plan of Romania.

As a result, the Romanian Government decided to expand the Local Agenda 21 programme nation-wide, so as to cover 40 more localities or territorial units until the end of 2007. For this purpose a collaboration agreement was signed by representatives of the Government, the Romanian Federation of Local Authorities and the United Nations Development Programme, through the National Centre for Sustainable Development. This time, the projects completed between 2003 and 2007 also included 6 counties (macro scale) and 2 villages (micro scale).

The programme benefited from the technical assistance rendered by experts of several UN and EU agencies and the International Institute for Sustainable Development (Canada) as well as of various international development agencies based in Europe and America.

The drafting of sustainable development strategies and plans mainly relied on local expertise; more than 2,000 persons were involved in the Local Steering Committees, Working Groups and LA21 Local Offices. 90 public debates, bringing together over 10,000 participants were organised to finalize the relevant sets of documents.

Six training sessions for the participants in the drafting, implementation and monitoring of the LA21 documents tackled a variety of subjects, following a careful evaluation of the training needs and the specific local requirements: the principles of sustainable development, the techniques of integrated environmental evaluation, the methodology for identifying local priority projects and for accessing EU funds or other financing sources. Two National Forums and ten workshops were organised to disseminate information about the LA21 programme and the results obtained after each phase. These actions, together with the effective teamwork for the implementation of LA21, helped improve the institutional capacity of the local authorities and raise the awareness of the civil society about practical ways to apply the tenets of sustainable development to local projects.

The portfolios of projects that were agreed upon by all actors at a local level and considered as priorities comprised in excess of 1,200 proposals covering a wide range of fields, ranging from urban or rural infrastructure to access to basic utilities or the regeneration of abandoned industrial sites, to actions for the protection of the environment and the preservation of biodiversity or for the preservation of historical and cultural heritage. The final documents that were adopted following the public debates were published in more than 40,000 copies, in Romanian and English.

An extensive information and communication campaign on the results of the LA21 programme also produced a constructive emulation among other localities that were seeking to be included in the programme. At the same time, the project portfolios that were made available to Romanian and foreign investors provided a useful

instrument for business decisions, based on the certainty that the project proposals had the support of local communities.

The accumulated experience from the implementation of the Local Agenda 21 programme, the established vertical and horizontal networks and the progress made as to the generalization of good practice have, in the case of Romania, a high degree of relevance for the successful accomplishment of the National Sustainable Development Strategy.

4. Spatial planning and zoning

From the perspective of sustainable development, the planned and inhabited geographical space – comprising physical, natural and man-made elements – represents a functional complex that supports the people's quality of life.

Spatial planning has an eminently strategic character; it establishes, within a certain territorial dimension, the development goals that are determined on the basis of multidisciplinary analysis and synthesis. The documents resulting from this process are both technical – in terms of spatial coordination relying on the principle of maximizing potential synergies among sectoral development – and legal, considering that, once such documents are approved, they become binding for the spatial development in a given location. The technical, legal and political aspects that are integrated in the approved spatial development plans thus become the foundation for regional development plans and represent the expression, coordinated in space and time, of development policies.

The objective to achieve territorial cohesion throughout the European Union is mentioned in the draft Reform Treaty of Lisbon; it gradually gained prominence in the documents adopted at ministerial level ever since 1983 and acquired a more precise, systematic shape in the Leipzig Charter (May 2007). Territorial cohesion implies the adjustment of existing resources (natural and man-made) to the socio-economic development needs in order to eliminate the disparities and dysfunctions among various spatial units while preserving the natural and cultural diversity of the regions.

Even in the absence of a specialized, permanently functioning authority at the EU level, the agreed guidelines have had a visible impact by promoting territorial cohesion through a better coordination of sectoral policies according to spatial planning concepts and techniques. EU documents specifically highlight the need that national territorial planning and zoning policies should become a crucial dimension of the EU Sustainable Development Strategy as well as of the revised Lisbon Strategy.

In Romania's specific circumstances, the clarification of the legal status of land property – both within urban perimeters (suitable for building) and outside them (used for farming, forestry or included in protected natural areas) – by developing an adequate cadastre system represents the main prerequisite of sound spatial development and has to precede the establishment of the technical and economic regime of land use through spatial planning.

4.1 Spatial Planning

The concept of spatial planning is an aggregate of methods, programmes, projects and actions aimed at the focused development, guided by explicit strategies, of the physical space in order to balance the economic, social, cultural, historical, landscape and natural environment features of a given territory. Spatial planning uses interdisciplinary approaches and comprises various levels of analysis and planning. It provides the conceptual framework for regional development policies and for interventions aimed at correcting the anomalies and dysfunctions that may occur in the process of their implementation.

The integrated spatial planning strategies, programmes and plans for zones and localities have to incorporate the common guidelines for the European planned space, with particular emphasis on maintaining a rational balance between private and public interests in strict compliance with the legal status of real estate property rights. Special attention is to be paid to avoiding the dispersion of residential areas (urban sprawl), ensuring intra-urban social and cultural diversity, controlling the speculative games that encroach on public spaces and landscapes, providing for the best mix of functional and social elements. Thus, the balanced development of localities, in combination with a respectful attitude toward the cultural and natural environment, will significantly help to improve the quality of life in harmony with the environment, to ensure a proper use of resources and to prevent the emergence of irreversible negative trends.

Horizon 2013. National Objective: To integrate the scientific precepts of spatial planning in the regional development programmes; to upgrade the legislative and regulatory framework in line with the EU territorial cohesion guidelines and with the requirements of sustainable development.

To this end, the following priority actions are recommended, in addition to the measures envisaged in the Regional Operational Programme (see Part IV, Chapter 3.1) and in agreement with the provisions of the National Spatial Development Concept – Romania 2025:

- To improve the existing legislative framework so as to incorporate the strategic vision provided by spatial planning and zoning into the regional development programmes, to clarify the incongruities regarding the relation between private and public property, to strengthen legal provisions against derogatory city planning (leading to the annulment of the strategic character of the city master plans) and to preserve the physical integrity of sites that have symbolic or heritage value, historical and art monuments, and landscapes;
- To determine the future urban centres that will serve as polar points for the development of rural areas in order to improve the access of the rural population to quality services (health, education, social services);
- To enact the legal framework and to set the technical standards for a multi-annual programme for the relocation of the households situated in high-risk areas (prone to earthquakes, floods, landslides, avalanches, chemical or radioactive pollution);

- To draft, endorse and enforce the regulations for the obligatory consultation of the population with regard to city-planning and community development decisions;
- To set legal restrictions against urban sprawl for a period of ten years in order to favour the restructuring (recycling) of the existing in-city real estate for the new investments;
- To prepare strategic development plans for the large cities and endorse them as guidelines for the city master plans to be updated in accordance with the evolving EU recommendations concerning integrated and sustainable urban development;
- To prepare, for each locality, a local plan for sustainable development (Local Agenda 21) with a broad and active involvement of the local community;
- To make it compulsory for the strategic outlooks and master plans for the large cities to be drafted and endorsed at the same time with those for the adjacent territorial-administrative units;
- To design and implement plans for the development of green-yellow belts (wooded areas and farmlands) around the larger cities; to expand the green areas within cities in order to achieve a quota of minimum 15 square meters per person by the end of 2010;
- To start implementing the projects aimed at significantly expanding the parking space in the large cities;
- To promote the EU strategic guidelines regarding the European territorial cooperation by means of implementing joint operational programmes within the EU borders (with Hungary and Bulgaria) and along the EU external border (with Serbia, Ukraine-Moldova, Hungary-Slovakia-Ukraine, the wider Black Sea area), the trans-national cooperation operational programme for the South Eastern European Space (SEES) and the EU inter-regional cooperation programmes to be implemented together with the countries of the European Economic Area (Liechtenstein , Iceland, Norway), INTERREG IVC, URBACT II, ESPON 2013 and INTERACT II. To this end, the positive experience acquired in Romania during the implementation of the Local Agenda 21 will be used also for cross-border projects.

Horizon 2020. National Objective: To complete, according to the spatial planning strategies, a polycentric regional system of functional urban areas (urban agglomerations) and urban corridors along the transport routes of European interest (polycentric networks).

Alongside the continuing implementation of the actions envisaged in the Regional Operational Programme 2007-2013, the following indicative targets will be pursued:

- To cover the entire demand for new building sites solely through recycling the built-up and non-built-up areas that have been designated in the strategic plans or through restructuring the underused or abandoned property, and further to limit urban sprawl;
- To develop the physical and institutional structures allowing the upgrading to urban status of the future polarization centres for the surrounding rural areas;
- To redesign the spatial configuration of communes (clusters of villages) so as to reduce the number of territorial-administrative units;

- To complete the polycentric and balanced spatial development of the metropolitan areas (Bucharest and Timisoara, then Constanta and Iasi) and to prepare the accession of four more cities having over 300 thousand inhabitants to metropolitan status (Brasov, Cluj-Napoca, Craiova and the urban system Galati-Braila);
- To complete the development of the green-yellow belts around the larger cities (rank I); to reach a green area indicator of 26 square meters per person for rank I and II cities;
 - To reach a national average housing space of 15 square meters per person;
 - To reduce to 40% the number of households using stoves with solid fuels by replacing the existing installations and introducing modern heating systems;
 - To develop high-quality public spaces in all the main areas of cities;
 - To resolve the problem of parking lots availability in the larger (rank I) cities, including Bucharest; to develop functional pedestrian walks and bicycle trails in rank I and II cities;
- To ensure an optimal functional and social mix of localities so as to avoid the establishment of social and economic enclaves;
- To continue and expand cross-border, trans-national and inter-regional cooperation programmes in order to meet the European Union territorial cohesion objectives and to improve connection and interaction with neighbouring areas.

Horizon 2030. National Objective: To structure and develop the enlarged urban and rural networks as a premise for turning the Romanian regions into dynamic, attractive and competitive entities and for ensuring their complete integration in the EU zoning system.

The following indicative targets are envisaged:

- To raise the urbanization level to 70% by fulfilling those indicators that will enable the inclusion of about 650 rural localities in the category of towns and by implementing the standards of integrated urban development;
- To put in place the main elements of the national structure for the functional interconnection of the Romanian regions (including trans-Carpathian corridors) to support their sustainable development and reliable links to the European system;
- To use zoning policies and instruments to restore the wooded areas, to return the Danube river flood plains to their natural state; to re-create the natural water retention basins and to rehabilitate the seacoast area;
- To develop the green-yellow belts around medium-large (rank II) cities; to reach a green area indicator of 35 square meters per person for rank I and II cities;
- To complete the programme for the relocation of the households situated in areas that are exposed to natural or man-made hazards;
- To ensure a national average indicator of 17 meters per person of housing space.

4.2. The Cadastre

The object of the general cadastre is to produce an accurate record the land area of Romania, i.e. all the estates included in the administrative-territorial units at commune, town and municipality level within the limits of the national territory regardless of their use in either the private or the public domains, and regardless of ownership.

Unlike the vast majority of the EU Member States, Romania has not yet developed a general cadastre of the real estate containing essential and complete information for the entire territory of the country, showing the boundaries of the territorial-administrative units, land ownership, areas used for business purposes (including buildings and utilities), housing, terrestrial and aquatic ecosystems (including protected areas), sites of historical value (including archaeological sites) or those belonging to the cultural heritage.

A form of cadastre (Property Register) existed in the present territory of Romania as early as the 19th century in the provinces then incorporated in the Austro-Hungarian Empire (i.e. Transylvania, Banat and Bucovina). After the Union of the Romanian Lands in 1918, appropriate legislation for the organisation of the cadastre and the introduction of the property register for the entire national territory was only promulgated in 1933, then further amended in 1938. The establishment of the communist regime (1948-1989) interrupted the implementation of that law, and real estate records were kept merely for the economic uses of land by type of use and ownership, but without producing the legal effects that the publication of property records usually entails.

In order to meet the new requirements of a functional market economy and to achieve gradual harmonization with the legal dispositions and practice that have been long established in the other EU countries, the National Agency for Cadastre and Real Estate Publicity and its regional branches were set up by law in 1996, as well as a National Centre for Geodesy, Cartography, Photogrammetry and Tele-detection. Although some notable progress was made, the implementation of the legal provision continued to be much too slow, while some important actions were abandoned altogether. For instance, out of a total of about 3,500 administrative-territorial units that existed in 1998, delimitation work started for only 400 units, but was never completed to this day.

The debates on the draft of this Strategy at a national level – and in particular those held in the eight development regions of Romania - as well as numerous signals received from experts and from various groups of the civil society highlighted the need to speed up concrete action toward completing the General Cadastre by means of realistic phasing of the required complex operations.

The urgent nature of this undertaking is underscored by the existence of a large number of property litigations (many of them due to boundary ambiguities) currently pending in law courts and by the immediate need to perform accurate direct payments to farmers.

It is imperative to be able to use the cadastral system for the delimitation of those areas that are of special interest in terms of ecological, historical or cultural value in

order to protect such sites against aggression from real estate speculators and developers and from diversion to various other uses (infrastructure, industrial parks, water reservoirs, etc.).

Estimates suggest that the implementation of national cadastre based on standard plans can be accomplished within a space of 20 years

- To provide a real base for guaranteed property rights;
- To support the development of the real estate market and mortgage lending;
- To establish a realistic tax base;
- To ensure transparency and access to public information.

To this end, an Action Plan will be adopted and implemented so as to accomplish a set of **specific objectives** in successive stages.

Horizon 2013. National objective: To upgrade the legal framework, to consolidate institutional capacity and to carry out preliminary work for the implementation of general cadastre.

- To incorporate the principles of the Declaration on the Cadastre in the European Union (Granada, Spain, 2002) in the relevant primary and secondary legislation at a national level;
- To integrate the national geodesic network (class A GPS) in the European reference system ETRS 89;
- To develop the network of permanent GPS stations in order to ensure an average density of one station for each 2,000 square kilometres; to implement a national geodesic network (class A, B and C) through GPS determinations by setting a minimum of three geodesic points in each territorial-administrative unit to serve for the introduction of the cadastre;
- To prepare an atlas of conventional signs for digital cartography to be used in maps and topographic plans so as to make them interoperable at European level; to standardize all geo-spatial information by adopting the European reference systems, including operating standards and data conversion functions for transfer among those systems;
- To standardize the registration in real estate records with regard to the description of immobile assets and the specification of owners and property rights for the registered real estate assets; to implement a system for the evaluation of the taxable value of real estate assets in order to ensure the proper imposition of real estate taxes;
- To convert the databases in existence at county level (cadastral plans, delimitation of administrative borders, old property records, etc.) from analogue to digital format; to provide online access to this information; to implement the information system required for the transfer of cadastre documents in electronic format;
- To complete the privatisation of cadastre operations; to decentralize the agencies in charge of the cadastre at regional level, while preserving the

responsibility of the relevant central authority for general coordination and information management;

- To implement the general cadastre and the database complete with actual records, including the opening of property records (as a legal tool that guarantees ownership rights) for 25% of the national territory;

- To implement the geographic information system for the farming estates (agricultural cadastre), along with the mapping and pedological survey of those estates in order to support the farmers' access to European funds and to ensure correct taxation; to implement the cadastre of urban real-estate assets for 50% of the municipalities and towns, the cadastre for transport and communication networks, the cadastre for public roads (highways and national roads), for the main railways, airports, sea and river ports;

- To produce the cadastral delimitation of the areas of special ecological (nature reserves and parks, protected areas and habitats, the integrity of natural landscapes), historical or cultural interest (monuments, archaeological sites, urban or rural areas having heritage value, buildings listed as historical monuments or architecture landmarks, memorial houses, places of worship, etc.) and to implement specific geographic information systems to facilitate the protections and conservation of such sites.

Horizon 2020. National Objective: To complete the basic framework of the general cadastre of Romania; and to ensure the system's transparency and accessibility.

- To finalize the general cadastre and the real database, including the opening of property registers for 65% of the national territory;

- To implement the geographical information system for the real estate and urban assets in the remaining 50% of the municipalities and towns, including commune seats; for the surface waters (water cadastre) including natural conditions and engineering works for water use and quality protection; for wooded areas (forestry cadastre) to compile an inventory and accurate records of forest cover in order to ensure the rational exploitation and continued vitality of forests and associated ecosystems;

- To complete the geographical information system for the land-based transport network (cadastre of county and commune public roads, cadastre of secondary railways) and the delimitation of the areas of special ecological, historical and cultural interest;

- To maintain (update and manage) the general cadastre and the specific geographical information systems by type of land use (specialized cadastrals) as open systems in order to make sure that the records do not become obsolete.

Horizon 2030. National Objective: To ensure compatibility and full interoperability between the Romanian cadastre system and the systems in place in the other EU countries in terms of reliability and data safety standards.

- To finalize the general cadastre for the entire Romanian territory;

- To develop the geographical information system for real estate and urban assets in the remaining rural townships within communes;

- To develop the information system of the cadastre and real-estate publicity for all administrative-territorial units, counties and for the country as a whole, and to ensure regulated access to the system for all potential users.

5. The cultural dimension of sustainable development

The preservation of cultural heritage, contemporary creative work and cultural diversity as a premise for European cohesion and solidarity is specifically mentioned in the EU Sustainable Development Strategy as well as in the main policy documents of the European Union, including the Lisbon Treaty and a number of multilateral conventions under the aegis of UNESCO or the Council of Europe. The importance that is attached to the cultural dimension at European level is illustrated by the fact that approximately six million European citizens are engaged in creative activities or cultural services, a number that amounts to 3.1% of the total number of jobs in the EU).

Topics related to the protection and dissemination of cultural goods (immobile, mobile and immaterial, cultural landscapes) are frequently debated in the European Parliament, generating important initiatives such as the introduction of a logo for items of European heritage, additional measures for the protection of intellectual property, including online works, striking a rational balance between free access to information and combating digital piracy, promotion of fiscal facilities for culture-related industries. The debates also stress the intrinsic and perennial value of cultural diversity and creativity and caution against a mechanical application of strictly market logic in the sphere of culture.

Sustainable development as a fundamental strategic objective relies on the adoption of practices and diverse instruments for free access to education and knowledge, to the cultural heritage of one's own nation and of humanity, to all resources that can develop creativity and a drive for innovation. This means ensuring a chance for all individuals to become producers of culture and to overcome the status of simple consumers of entertainment.

In essence, the principles of sustainable development equally apply to the cultural heritage as they do to the natural capital, since we have to do with a legacy of resources that future generations should also be able to benefit from. Since those are non-renewable resources, their potential loss, out of ignorance or negligence, thus becomes irrecoverable and irreversible.

Horizon 2013. National Objective: To set up and maintain a coherent legislative, regulatory and institutional framework for the cultural domain, consistent with existing EU regulations and practices; to implement the first phase of the action plan for the listing, preservation and promotion of the national cultural heritage and contemporary cultural assets, and for closer links with the European and universal space of cultural values.

The activities concerning the national cultural heritage are currently regulated in Romania by 43 normative acts (laws, including those for the ratification of relevant

European or international conventions, Government decisions or ordinances and orders of the Minister of Culture and Religious Denominations). Those activities are coordinated by the line ministry and carried out by other relevant agencies, local public authorities and subordinated units (research institutes, museums, creative and performing arts units, culture centres) in cooperation with professional associations and non-governmental organisations and universities.

On 18 April 2008 a Presidential Commission for Listed Buildings, Historical and Natural Sites was established by Presidential Decree. The Commission has a multi-disciplinary composition and has to submit within six months a comprehensive report on the present state of affairs, to draft a medium to long-term strategy for the protection and promotion of the cultural heritage and to propose effective institutional measures for better coordination and implementation of priority policies. The Commission is also charged with the preparation of a Guide of listed buildings, historical and natural sites. A coherent national approach is thus envisaged, in accordance with the relevant EU dispositions and practice.

The Strategy for National Cultural Heritage 2008-2013, which was drafted in February 2008, defines the national heritage as a set of inherited resources, identified as such irrespective of ownership, which are witness to, and expression of the perpetually evolving values, beliefs, knowledge and traditions and comprise all elements resulting from the interaction between natural and human factors in the course of time. The Strategy highlights the basic cultural rights, as defined at the European Union level, and establishes the following general principles: citizens' participation, improved administration of the cultural heritage sector, development and sustainable use of cultural resources.

The general priorities that have been identified in the Strategy are to complete the inventory and the code of the national cultural heritage and to make operational an effective information system connecting in a transparent manner the central and local authorities with the relevant institutions and the civil society groups that have activities or interests in the sphere of culture.

(a) For the conservation and better use of the **national cultural heritage**, the main focus is placed on the following main areas of intervention:

(i) Immovable heritage (archaeological and architectural monuments, including fortresses, princely courts, fortified churches, castles, manors, palaces, fortified towers, urban civil buildings, wooden churches, open-air ethnographic museums, cave churches, churches and monasteries, industrial architecture, samples of folk architecture, as well as Palaeolithic, Neolithic and Aeneolithic complexes, settlements and necropolises dating from the Age of Bronze, fortifications and settlements dating from the first Iron Age, Dacian fortifications, ancient cities and edifices, mediaeval monuments, archaeological reservations):

- To maintain a coherent legislative framework by reducing excessive regulation and achieving better correlation with the objectives of spatial planning, to stabilize secondary legislation and decentralise the mechanisms for technical approval by involving the experts in monument protection and restoration in the process;
- To set priorities and provide for multi-annual financing of the restoration, promotion and revitalization of historical monuments, complexes and sites, focusing

on those which are more attractive to the public and promise a faster return on investments;

- To draft integrated plans for the protection of the cultural and natural heritage with the direct involvement of specialists in spatial planning, city zoning, preservation and restoration of monuments, tourism industry, landscape architects, ecologists, sociologists, etc.; to decentralize decision-making regarding the use of immovable cultural assets;

- To develop a mechanism for the sustainable development of protected areas based on integrated conservation of the immovable cultural heritage;

- To give high priority to the training of experts in all the required professions from research and record keeping to the physical maintenance of restored and revitalised monuments by means of revising the post-graduate education system, attachments abroad and continued training;

- To enhance the awareness and responsibility of various social groups about the importance of the immobile cultural heritage for the preservation of the national and local identity and for social cohesion;

- To ensure the proper conservation of those monuments that are listed as parts of the world heritage through consolidation measures in case of imminent degradation, to retrace the roads and access routes in order to safeguard authentic landscapes, to locate tourist facilities in places that do not affect the integrity of the monuments and protection areas, to undertake promotion campaigns;

- To develop joint programmes with partners in the EU and other countries for the purpose of preserving the immovable cultural heritage and the landscapes, especially in the border areas, by involving also the local authorities within the Euroregions; to make use of the experience and lessons learned during the programme «Sibiu – Cultural Capital of Europe» (2007);

- To review certain provisions of the financial legislation in order to encourage the use of additional sources of funding for the protection of historical monuments and for increasing independence from budget subsidies;

- To complete the immovable heritage inventory by identifying non-listed cultural assets, correcting past errors and including new categories of protected sites (industrial, spa, 20th century buildings, etc.).

(ii) Mobile heritage (museums, archives, collections of art, historical and archaeological artefacts, science history, ethnography and anthropology, other specialised collections):

- To improve the relevant legislative and regulatory framework;

- To ensure wider access of the public to museums and collections by means of adequate promotion activities and early planning of exhibitions (at least two years prior to the event);

- To introduce specific modules at graduate and post-graduate level for the initial and continuing education and training of museum custodians and experts in cultural management and marketing;

- To preserve the exhibits in good condition and to develop programmes with a clear order of priorities for the required maintenance and restoration work;

- To diversify the activities of the museums so as to take over certain functions of the cultural centres as cultural mediators and suppliers of cultural services;
- To develop substantially the exchanges of exhibitions with museums in other European Union countries and in other states and to undertake joint research projects;
- To include museums and collections into cultural complexes that should become points of attraction for visitors; to develop the appropriate infrastructure;
- To take additional steps to ensure the physical security and integrity of museum exhibits against theft, destruction, deterioration or other natural or human risk factors.

(iii) Immaterial and ethnographic heritage (oral traditions and expressions, visual and performing arts, social practices, rituals and festive events, folk customs, knowledge and practices about nature and universe, traditional craftsmanship):

- To identify, collect evidence, research, catalogue and constantly update the various elements of the immaterial heritage with the support of specialists, communities and civil society organisations;
- To preserve, promote and bring the heritage to public knowledge through national and regional programmes and to provide support to relevant projects and initiatives from public resources;
- To convey the specific contents of the immaterial heritage in authentic forms via the formal and informal educational system and through the media;
- To implement special training programmes for village craftsmen and creative artists to acquire knowledge about traditional techniques, materials and forms of expression with a view to preserving the genuine essence of folk arts and encouraging creativeness and innovation; to establish proper procedures for the accreditation or authorisation of trainers and issuance of trainer certificates;
- To ensure the legal protection of the intellectual property rights of individual craftsmen and folk artists, as well as of the communities where such works were generated over the traditional art forms which they produced and which express their spiritual identity;
- To design a multifunctional network at national and local levels (ethnographic museums, folk art schools, folklore ensembles, voluntary associations) aimed at enhancing creative abilities and supporting initiatives to promote the immaterial heritage and to re-establish its vital presence in community life.

(b) In the area of **contemporary creation and cultural diversity**, the main domains for intervention are:

(i) Performing arts:

- Diversifying the offer and the forms of artistic expression by rendering support to projects such as tours and micro-seasons of performing arts troupes and roadshows in areas where there are no permanent artistic establishments, and by organising festivals, galas, creation and interpretation contests at national, regional and local levels;

- Strengthening and diversifying institutional structures through continued administrative and financial decentralization, developing the infrastructure of establishments for performing arts and providing them with modern equipment;

- Targeting the artistic offer in order to increase the expected audience; cultivating the distinctive traits of performing arts in different areas and communities;

- Promoting and encouraging the creative and performing arts; supporting the professional mobility of artists;

- Encouraging inter-cultural communication through exchanges of artistic tours and supporting the participation of Romanian artists in international events.

(ii) Public reading and libraries:

- Updating and expanding library collections; modernizing the premises and services on offer;

- Reshaping the role of public libraries by connecting them to the requirements of information and technology-based society, developing their functions as multi-media centres by enriching their collections with new types of material in video, audio and digital formats;

- Improving the quality of services provided by librarians and enhancing their capacity to initiate complex cultural programmes, including projects for the preservation of the collective memory of local communities.

(iii) Visual arts (sculpture, painting, engraving, lithography, monumental arts, scenic and costume design, tapestry, ceramics, glass and metal arts, drawing, decorative or industrial design, other forms of applied art, photography and associated techniques):

- Stimulating the creative potential of the artists by consulting them and involving them directly in the drafting of policies and regulations concerning their work:

- Protecting intellectual property rights and supporting the professional associations or unions of free artists to provide for the social security, employment and occupational safety of their members;

- Enhancing public interest in the visual arts by increasing the number and the functional diversity of exhibition spaces, supporting the development of a specific market and providing programmes on "education through art" in formal and informal educational systems.

(iv) Cultural industries

- Increasing the profitability and competitiveness of Romanian cultural industries on the EU and international markets by supporting the small and medium

enterprises that are active in this field, reviewing the mechanisms for the award of state aid, identifying and using supplementary sources of financing, including the encouragement of public-private partnerships;

- Improving the social and economic status of creative and performing artists;
- Promoting effective mechanisms for the protection of intellectual property, including labelling systems for the works of art media both in classical and in digital or virtual forms; combating piracy and counterfeiting;
- Facilitating access to cultural products, also by awarding commissions and acquisitions from public funds.

(v) Cultural establishments (culture centres, popular universities, arts-and-crafts schools, culture clubs, performing art groups and professional troupes, area centres for adult education, the National Centre for the Conservation and Promotion of Traditional Culture and its county branches):

- Ensuring system coherence at community level by leveraging the synergies among local stakeholders and avoiding duplication, increasing the accountability of local authorities for the proper operation of cultural establishments;
- Rehabilitation and development of the infrastructure of cultural establishments, including endowment with modern equipment;
- Re-defining and expanding the traditional functions of cultural establishments; setting up resource and assistance centres for the preparation of programmes and projects and for gaining access to additional sources of financing.

Horizons 2020 and 2030.

It appeared impossible to set national objectives for more distant timeframes since the available documents and studies produced to date do not identify specific priorities for the cultural sector.

6. Administrative capacity and quality of public services; sustainable development as a measure of good governance and quality of public policies

Already in the early days of transition to pluralistic democracy and functional market economy, it became obvious that in Romania, much like in other post-communist countries, a radical improvement in the quality of governance by means of increased effectiveness, credibility and transparency was essential for the success of political, economic and social reforms and for enhancing the citizens' trust in the public administration.

The requirements concerning the development of administrative capacity are highlighted in the EU strategic guidelines on cohesion, in the revised Lisbon Strategy and the renewed EU Sustainable Development Strategy of 2006.

Romania began to pay growing attention to administrative reform in 1992-2001, with support from the EU PHARE programme, but progress was uneven and proved insufficient to meet the complex needs of a modern and effective public administration. A national strategy for public administration reform was only adopted in 2001 and updated in 2004 in order to speed up the necessary changes during the EU pre-accession period. For a fundamental change in the relationship between the political and the administrative positions in public administration, and considering the low quality of public services actually provided, the poor motivation of civil servants, the effects of corruption within the system and the unfavourable public image of the public administration, the following medium-term objectives were set:

- To establish proper procedures for the recruitment, career management and training of public servants by setting norms and rules that can be effectively implemented;
- To reform the wage scale in order to ensure the homogeneous and fair treatment of all categories of public servants;
- To improve the image of public administration by increasing the transparency of administrative procedures and enforcing stern anti-corruption measures with high public visibility.

The subsequent actions focused primarily on the enactment, in 2006, of a legislative package for the implementation of administrative reforms and on setting up the necessary institutional framework in the context of decentralization and de-concentration of responsibilities. As early as 1999, new institutions were created: the National Agency of Public Servants for the general management of public service and the National Institute of Administration for the initial and continuing training of public servants and contract employees in the public administration. The Operational Programme for the Development of Administrative Capacity 2007-2013, which was adopted in September 2007, includes a range of measures intended to improve substantially the effectiveness, transparency and accountability of administration at all levels.

Horizon 2013. National Objective: To put in place a more effective public administration that is able to produce appropriate public policies and to manage them efficiently for the implementation of sustainable development principles.

The national strategies and the relevant legal dispositions in the sphere of public administration address the following **specific objectives** for this reference period:

(i) Increasing administrative capacity through structural and process-oriented improvement of the public policy management cycle.

The envisaged measures proceed from the observation that weaknesses still persist in the system of central and local administration with regard to the ability to manage the planning, drafting, implementation and evaluation of public policies, to define clear objectives and to coordinate inter-sector actions resulting in a low effectiveness

of the public services. While some expertise has been acquired for planning and management, the evaluation and feedback mechanisms are still very poor. It is also necessary to overcome the existing deficiencies with respect to the evaluation of the environmental impact of the proposed programmes or projects.

The target groups under this objective are the ministries, the agencies operating under the authority of the Government or various ministries, local public authorities and their associative structures, relevant non-governmental organisations, higher education and research institutions. The main areas for intervention are:

- To improve political and administrative decision making through a set of improved instruments and methods and the establishment of an effective institutional framework specifically designed to implement public policies, including the strategic planning and budgeting of programmes, which should lead to better operational performance and cost reduction in public administration; acquiring knowledge about the best practice available in other EU countries and implementing the lessons learned; providing training for the experts involved in the formulation of public policies; implementation of training programmes on strategic planning for executives in the administration, including training of trainers; development of appropriate mechanisms for the promotion and implementation of partnerships at all levels so as to ensure the involvement of interested parties in the formulation of public policies;

- To increase the accountability of public administration by developing methodologies and tools to improve the systems and procedures for performance measurement and reporting, including feedback mechanisms, taking into account the inputs coming from the civil society and the citizens; provision of training to improve the quality and frequency of performance reporting to the recipients of public services and to citizens groups; training in performance measurement and reporting techniques by using monitoring and evaluation indicators and procedures; developing a national database for collecting, reporting, analyzing and publishing relevant statistics regarding the performance of local public administration; preparing adequate methodologies and institutional tools for expanding the evaluation of policies and programmes at the level of central and local administration.

- To improve organisational effectiveness with a view to introducing a new kind of administrative culture in all public structures, while focusing in particular on health, education and social services, through a review of the current structures and the implementation of modern management instruments in each sector, establishment of new structures and making them operational; introduction of procedures for the evaluation of quality management in the administration; implementation of a human resource performance management system; development of managerial skills as part of the training for public administration; special post-graduate management training programmes for senior executives; special training modules on topics such as public procurement, foreign languages, project development, tendering and project management, etc.

Following the implementation of these measures, it is envisaged to prepare as many as 19 guidebooks, methodologies or working procedures by 2015 (as compared to 3 in 2007); to conduct about 380,000 days of training for administrative staff at all levels also until 2015 (compared to 1,000 in 2006), to certify the competence of 75,000 persons, to reduce administrative costs by 20% in 2015 as compared to 2007, to render operational 287 new or streamlined structures by 2015.

(ii) Improving the quality and effectiveness of the delivery of public services on a decentralised basis.

The actions to be undertaken are meant to remedy the remaining deficiencies in such areas as the unclear distribution of responsibilities among institutions and administrative levels, incomplete transfer of decision-making power and financial means to the decentralised units and services, and the quality and expediency in the provision of public services. The implementation of decisions will be brought closer to the citizen by shortening response deadlines, introducing adequate instruments for performance monitoring from the point of view of costs and quality of the services provided to the citizens. In this respect, the main areas of intervention are:

- Support for the decentralisation process through training and technical assistance for the structures involved in the planning and coordination of the decentralization process; development of procedures for cooperation between central and local administrations, and between the local authorities and the decentralised health, educational and social services; training for the civil servants engaged in the local public administration and for the managers of the newly decentralised services; evaluation of the pilot phase of the decentralization of public services and implementation of the resulting recommendations; streamlining the structures of the newly decentralized services; elaboration of studies and strategies to support decentralisation initiatives;

- Improved quality and effectiveness of public services by addressing the complexity of processes and regulations from the perspective of the citizens and businesses with a view to simplifying and reducing administrative barriers; monitoring the expeditiousness of the delivery of services, with a corresponding reduction of costs; introducing a system for the evaluation of the quality of services, including measurable targets for services rendered to the citizens; developing, testing and implementation of cost and quality standards for public services; elaboration of mechanisms, tools and procedures for the improvement of tax collection, including the interfacing of existing data bases; implementation of initiatives aimed at expediting the delivery of services (e.g. one-stop-shop, portals and other electronic services, document management, use of the silence-is-consent rule, etc); training for the evaluators of performance in public services; implementation of citizens' charters for public service provision setting out clear performance standards (equal treatment, impartiality, continuity, regularity, transparency, freedom of choice, civility, promptness, consultation, value for money); introducing and applying evaluation systems for managerial performance in relation to the environment of EMAS type (Eco-management and Audit Scheme).

At least 50% of the funds allocated for the implementation of the measures to address this objective will be directed to the three public service sectors that have been identified as priorities (health, pre-university education and social assistance). By 2015, structural revisions will be conducted in all 41 counties and in 100 municipalities, so that those services become operational in a decentralised mode; 25 manuals, studies and reports supporting the decentralisation process will be prepared, about 42,000 training days will be provided for civil servants at all levels, 250 analyses for administrative streamlining will be produced (as compared to 7 until 2006); quality and cost standards will be introduced in the 3 priority sectors of the administration, and the level of the tax collection by local public administration will increase to 95% (as compared to 84% in 2006).

The administration reform programme is correlated with other national strategies and operational programmes to accomplish the principles and objectives of sustainable development. This includes the incorporation of specific subjects on environmental protection and rational use of natural resources in all training modules and the inclusion of eco-efficiency standards in the selection of publicly funded projects and in public procurement.

Horizon 2020. National Objective: To complete the process of public administration reform and to reduce significantly the existing disparities in comparison with the average performance level of the central and local administration and of public services in other EU Member States; to strengthen the citizens' trust and satisfaction with respect to the central and local public administration authorities.

Since the consolidation of the central decision-making structures and of the recently decentralised public services will continue during this period, it is necessary to re-evaluate the projected objectives beyond the targets set for 2015.

Horizon 2030. National Objective: To come close to the average performance level in the other EU Member States regarding the performance of central and local public administrations in providing public services .

7. Foreign and security policy: General guidelines and specific contributions of Romania to the Common Foreign and Security Policy and to the European Security and Defence Policy as relevant to sustainable development requirements

The priority lines of action of Romania's foreign policy are aimed at upholding and promoting the Romanian national interests, which are permanent and non-partisan, while continuously adjusting to the ongoing changes in the system of international relations, gradually shaping the international profile of Romania and dealing with the consequences of its particular geographical position at the eastern border of the EU and NATO.

The following key elements are introduced as **benchmarks for success** to measure the viability of the general objectives and the actual performance of Romania's external action:

- The multi-dimensional character of Romania's participation in the process of building a new global order, based on respect of international law, democratic values and sustainable development principles; this is accomplished through a combined use of political and economic instruments, both formal (treaties, international and regional institutions, diplomatic demarches) and informal (public diplomacy, direct bilateral and multilateral contacts, functional *ad-hoc* alliances, public-private networks or partnerships);

- The integration of sustainable development priorities (political, security, economic, social and environmental) by ensuring coherence and complementarity in the collaboration among state institutions, by involving extra-governmental actors at a national level, and by reflecting those priorities in foreign policy actions;
- Maintaining a balance of interests and values by steadily upholding the democratic principles, the rule of law and human rights in ways that are consistent with the promotion of Romania's economic and geo-strategic interests.

Looking ahead at the next decade, the foreign policy of Romania will focus on the following **priority objectives and actions**:

(a) Building a predictable and stable security environment for Romania, in keeping with the national interest.

(i) Consolidation of Romania's role in NATO:

- Promoting NATO reform and its enlargement to States in Romania's neighbourhood;
- Strengthening NATO's relations with partner States that have convergent interests and values with those of the Alliance;
- Continuing the reform process, the professionalisation and modernisation of the Romanian military, insuring full interoperability with the military forces of allied countries;
- Keeping Romania's commitments in NATO theatres of operation, in close political and operational cooperation with its strategic partners and with the national authorities of the respective countries, including participation in the post-conflict reconstruction process;
- Active contributions, in conceptual and practical terms, toward the resolution of sensitive issues on the NATO agenda (arms control and disarmament, including the CFE Treaty, the anti-missile shield, 'frozen' or latent conflicts, energy security, protection of critical infrastructure, etc.);
- Consolidation of the Transatlantic dimension of the Alliance.

(ii) Enhancing Romania's contribution to the adjustment of the international security system to the demands of globalization:

- Development of a multi-functional civil defence capability comprising units that can be deployed for missions in various theatres of operation, including a corps of experts in post-conflict rehabilitation and reconstruction;
- Participation in UN peace-keeping missions, subject to the determination of the zone of interest and availability of resources, in post-conflict stabilization operations and in civil or military crisis management;
- Enhancing Romania's capability to contribute toward fighting the non-conventional threats to international security, especially terrorism-related risks, including measures targeting the root causes of terrorism.

(b) Contributions to the sustainable development of Romania:

- Integrating economic information and analysis in the process of foreign policy decision-shaping for the purpose of attracting foreign investment, promoting Romanian investments abroad and improving trade flows;
- Rendering support to Romanian economic and commercial interests and promoting the principles of sustainable development in the internal EU debates on future policy guidelines and sectoral regulations;
- Active participation in the process of shaping the EU positions and upholding those positions in the international debates on sustainable development, including the negotiations in the framework of the World Trade Organisation;
- Involvement in the shaping and implementation of the EU energy policy and promoting Romania's potential as an energy producer, consumer and transit country.

(c) Shaping and promoting Romania's profile within the European Union

(i) Active involvement in shaping the EU common positions on foreign, security and defence policies and promotion of Romania's specific national interests in that framework:

- Support to the EU institutional reform in line with the Lisbon Treaty and with the process aimed at improving the instruments of the Common Foreign and Security Policy (CFSP) and the European Security and Defense Policy (ESDP);
- Promoting further EU enlargement and keeping the commitments made to candidate countries as well as to partner countries in the context of the European Neighborhood Policy (ENP);
- Development of effective development assistance policies in accordance with the EU general guidelines and based on Romania's foreign policy priorities;
- Promoting and expanding special partnerships, bilateral cooperation mechanisms and political dialogue with the other EU Member States;
- Enhancing, through specific instruments, cooperation with the countries in Romania's immediate neighborhood, be they EU Member States, candidate or partner countries;
- Strengthening bilateral relations and multilateral cooperation with countries of the European Economic Area;
- Cooperation with European partners in fighting cross-border crime, illegal migration and all forms of illicit trafficking;
- Preparation of a National Strategy for Conflict Prevention and of a related Action Plan, in line with the European Council decisions of Goteborg (2001);
- Establishment of a Post-Conflict Reconstruction Centre in Romania to provide advanced research and training programmes, focused on the interface between sustainable development and international security requirements; promoting the international stature of the Centre;
- Valorizing, in agreement with the European allies and partners, Romania's capabilities to promote regional cooperation in the Black Sea area, in the Balkans and in the Danube basin.

(ii) Strengthening the transatlantic link:

- Support to the special relationship between the European Union and the United States by means of promoting an active, intensive and constructive dialogue at all levels and in appropriate forms on all major issues on the international agenda, including the challenges of globalization and sustainable development worldwide;
- Enhancement, at bilateral level, of the strategic partnership with the United States and of the special relation with Canada.

(iii) Active participation in building a space of democracy, stability, security and prosperity in Romania's neighbourhood:

- Rendering support, within the EU institutions, to the demarches and efforts undertaken by **Western Balkans** countries to meet the targets of the Stabilization and Association process aiming at EU accession; participation in EU initiatives and missions in the area; involvement in large-scale regional projects, especially those regarding transport and energy infrastructure; support to effective operation of the Southeast Europe Free Trade Area (CEFTA+);
- Promoting multilateral cooperation in the wider **Black Sea** region by means of connecting it to the European integration processes, developing specific EU policies and instruments for that area and capitalizing on the synergies with the inter-governmental organisations, as well as with informal initiatives and consultation mechanisms that exist at regional level;
- Support to the European and Atlantic vocation of the **Republic of Moldova**, both directly and by shaping coherent policies at the EU level, in order to regain its sovereignty over its entire territory and gradually to connect with the EU economic, political and legal space; establishment of a strong bilateral partnership, based on the community of culture, language and traditions;
- Enhancing the relations with **Ukraine** in the spirit of good neighbourhood and support to its European and Euro-Atlantic aspirations;
- Developing the bilateral relations with the **Russian Federation** and making them more functional on a pragmatic basis; promoting in a constructive spirit a single EU voice in relation to Russia;
- Deepening bilateral relations with the countries of the **Southern Caucasus** and expanding multilateral cooperation at regional level;
- Increasing Romania's involvement in the countries of **Central Asia** in line with the objectives of the EU Strategy for that region.

(d) Promoting and safeguarding Romanian values worldwide.

(i) Protecting and promoting the interests of Romanian citizens and ethnic Romanians everywhere; maintaining the ethnic and cultural identity of Romanians living outside the national borders:

- Continued demarches toward eliminating visa requirements for Romanian nationals travelling to the USA; elimination or simplification of the visa regime in the relations with Japan, Canada and other States;

- Completion of actions aimed at abolishing all restrictions for the access of Romanian citizens to the labour market in all the countries of the EU and the European Economic Area;
- Concluding the preparations for Romania's accession to the Schengen area in 2012;
- Expanding the network of consular offices in those countries where the number of Romanian residents is growing; enlarging the scope and enhancing the quality standards of consular services; developing a stable and professional consular corps;
- Supporting Romanian communities abroad to preserve their linguistic, cultural and religious identity by funding courses on Romanian language, history and geography; promoting the Romanian cultural heritage; rendering support to churches, priests and parish schools in those communities;
- Building partnerships with the associations of Romanians living abroad and encouraging cooperation among such associations in order to facilitate the resolution of the specific problems they may face in their countries of residence.

(ii) Promoting national **cultural and spiritual values;** reshaping the role of public diplomacy in improving Romania's image overseas:

- Continued programmes aimed at highlighting the Romanian contributions to the European cultural heritage and facilitating access to Romanian cultural products;
- Expanding cultural dialogue to spaces outside Europe;
- Implementation of a public diplomacy strategy and building partnerships with competent organisations and institutions for the promotion of Romania's image abroad in order to produce and convey coherent messages to the political establishment, opinion shapers, academic communities and the civil society in other countries.

(e) Enhancing the value of Romania's contribution to international affairs:

(i) Intensifying Romania's presence in **multilateral diplomacy:**

- Active participation in shaping the EU and/or NATO common positions within international governmental organisations, especially those of the UN system, and supporting those positions through Romania's own initiatives and demarches;
- Improved representation of Romania in the executive and management structures of the main international organisations;
- Using Romania's presence in these organisations to promote the values of democracy, rule of law, human rights, tolerance and inter-cultural dialogue, especially in the Council of Europe, the Community of Democracies, the Alliance of Civilizations, the Conference of New or Restored Democracies, etc.

(ii) Re-asserting Romania's role as an important partner for **dialogue and cooperation worldwide:**

- Effective involvement in shaping the strategic directions of the EU and, whenever appropriate, NATO action with respect to other geographical areas (Asia and Oceania, Middle East and North Africa, Sub-Saharan Africa, Latin America);
- Differentiated development, subject to Romania's national interest and the partners' readiness, of bilateral relations with countries in other continents;
- Participation in programmes developed under the aegis of the EU and UN system and promotion of Romania's own initiatives in a bilateral context with regard to development assistance overseas.

Considering the dynamics of international relations and the specific features of political-diplomatic action, no explicit, quantifiable objectives are envisaged for definite time horizons.

PART V. IMPLEMENTATION, MONITORING AND REPORTING

The **following measures are recommended** for the implementation of this National Sustainable Development Strategy. The proposals emerged from consultations in the framework of the National Public Debate Council, Regional Groups (for each of the eight development regions), the Scientific Council under the aegis of the Romanian Academy and from the relevant observations and recommendations that were presented during the entire consultation process from central government agencies, local authorities, political parties, scientific and academic institutions, business associations and social partners, non-governmental organisations and other groups of the civil society, concerned individuals in Romania and Romanian nationals residing abroad, and additional inputs from the mass media. The proposed measures are:

1. To seek professional advice on the draft National Sustainable Development Strategy from the Organisation for Economic Cooperation and Development (OECD) and from other international experts, and to obtain a preliminary expert opinion from the relevant Directorate General of the European Commission.
2. To have the draft National Sustainable Development Strategy endorsed by the Romanian Government.
3. To submit the National Sustainable Development Strategy for approval as a single-article law by the Romanian Parliament.
4. Following approval by the Romanian Government and Parliament, to present the National Sustainable Development Strategy to the European Commission formally.
5. To institute, according to the law for the adoption of the Strategy, an Interagency Committee for Sustainable Development at executive level, chaired by a Minister of State (Deputy Prime Minister of the Government) with exclusive responsibilities in the field, and bringing together the ministries and national agencies of the central government that are involved in the implementation of the Strategy. The Interagency Committee, through its Chairperson, shall be designated as the focal point in the relations with the European Commission and other EU institutions regarding the implementation at the national level of the EU Sustainable Development Strategy.
6. To establish by law the obligation of the Interagency Committee to present to Romanian Parliament an annual report on the implementation of the Strategy, based on the monitoring of the sustainable development indicators that were agreed at EU level and of the specific indicators as adapted to Romanian conditions, on the possible shortfalls and the measures taken to remedy them, including possible proposals to adjust some national targets and implementation deadlines, with due consideration of the real situation and of relevant EU directives adopted during the reporting period.

7. To establish by law the responsibility of the Interagency Committee to coordinate the activities related to the elaboration and permanent updating of the set of indicators for monitoring the implementation of sustainable development objectives at national, regional and sector levels, in conformity with the methodological guidelines to be developed by the National Institute for Statistics in accordance with the agreed EU rules, in order to ensure the accuracy of reported data and comparability with the data provided by the other EU Member States.

8. To incorporate the activities of the Interagency Committee regarding the monitoring and periodic evaluation of the implementation of the National Sustainable Development Strategy in the Single Management Information System (SMIS).

9. To stipulate the statutory obligation of the Interagency Committee, in conformity with the EU Sustainable Development Strategy, to submit every two years to the European Commission a complete report on the implementation of the National Sustainable Development Strategy, starting with the month of June 2011, accompanied by proposals and recommendations regarding possible changes to the general orientation, policies and priorities of the relevant EU Strategy.

10. To ensure the representation of the Interagency Committee in the European Sustainable Development Network (ESDN) at EU level.

11. To institute (by amending or replacing Law 158/1999) a Consultative Council for Sustainable Development at national level, with a Permanent Secretariat. The Consultative Council will be instated through Parliamentary Decision, will have complete autonomy from the executive branch of Government, but will be supported financially from the state budget (according to the established practice in most EU Member States), and will include 11-15 representatives of the Romanian scientific and academic community and civil society, persons of recognized authority and relevant competencies, The Consultative Council shall operate under the aegis of the Romanian Academy, with a core mission to monitor the implementation of the National Sustainable Development Strategy.

12. To stipulate by law the right of the Consultative Council to present an annual report to Romanian Parliament, complementing the report to be presented by the Interagency Committee, containing its own evaluation of the implementation of the National Sustainable Development Strategy and recommendations for further action.

13. To seek for the Consultative Council membership status in the network of European Environmental and Sustainable Development Advisory Councils (EEAC)

14. To start the peer-review procedure for the National Sustainable Development Strategy by institutions and experts from the other EU Member States, in keeping with the explicit recommendations of the EU Sustainable Development Strategy.

In addition, the following **recommendations** for appropriate action have emerged from the consultations with central and local authorities, associations and **other stakeholders**, and are hereby presented **for consideration by the Romanian Government**:

1. To begin preparation of multi-annual national budgets spanning seven years, and thus mirroring the financial programming exercise of the European Union, to be

conceived on a sliding scale and revisable every year, in order to ensure the continuous, uninterrupted funding of sustainable development objectives in conformity with the obligations undertaken by Romania as a Member State of the European Union and with the Romanian national interest.

2. To establish, as a component of the Romanian Government, a specialized institution (possibly in the form of a National Institute for Strategic Planning) for the elaboration of, and follow-up on the implementation of economic and social development strategies of Romania in conjunction with the support capacity of the natural capital in the medium and long run, and for the coordination of inter-dependent sectoral programmes to ensure the coherence of government programmes and of those receiving EU financing.

3. To create a Ministry of Energy and Resources (possibly following the restructuring of the Ministry of Economy and Finance) and to re-examine the functioning of regulatory mechanisms and specialised agencies, including the setting up of an independent office for the transparent monitoring and oversight of the energy market in conformity with EU policies and practice.

3. To undertake as a priority the preparation of a pro-active medium-to-long term strategy regarding demographic changes and migration as points of reference for a realistic review of national and sectoral programmes, and for the adjustment of strategies on human resource development, education and training, and public health.

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