ROMANIA

National Sustainable Development Strategy

"Doing more with less"

This document was finalized and promoted by the Working Group established by the Governmental Decision no. 305/15.04. 1999, with the participation of civil society and the support of:

CONTENT

The Prime Minister of Romania

Romania is still going through a challenging period in which it has to complete the transition from a centrally planned economic system to a market economy. At the same time, Romania must reduce the gap that still separates it from European Union, in order to be integrated into the great family of nations.

This process, motivated mostly by the desire to improve our quality of life, is difficult, and busy coping with the dimensions and complexity of changes, we have sometimes not noticed that the target itself is moving.

The world, and especially the West, is experiencing a profound transformation in its effort to ensure the long-term survival of mankind, and it is aware that this can be achieved only if the environment is protected on a global scale.

In 1992, at the Rio Conference, also known as the "Earth Summit", all countries, including Romania, agreed unanimously that there was an urgent need to adopt a global strategy for the next century, entitled "Agenda 21", the option of which was to be the implementation of sustainable development principles. The key to this is reconciling two objectives of mankind: the need to continue social and economic development, but also the improvement of the state of our environment as the only way of achieving the well being of current and future generations. In order to accomplish this, it has been decided that each country must assume responsibility to implement sustainable development as soon as possible.

The imperative of the international context, which Romania cannot ignore in the current process of globalisation, is not the only reason for Romania's decision to subscribe to sustainable development. The fact that we care for our own environment and resources, our desire to protect and conserve them so that we, as well as our children, can live a healthy life at civilised standards of living, are another reason for our option.

The National Strategy for Sustainable Development was developed, for the first time in our country, by a working group established by the government, which made sure that all partners in society were represented. The working group was assisted by the UNDP project called "National Center for Sustainable Development" under the patronage of the Romanian Academy. This document was created due to the general desire and need to increase the well being and prosperity of every Romanian and of society overall. We have thus defined our goal as **"doing more with less"**.

The government, as well as society in general, must put into practice the National Strategy for Sustainable Development by elaborating a National Action Plan, which will define our goals concretely. We will be able to ensure harmonious development of our economy, society, and environment only if we adopt this kind of attitude.

Radu Vasile

The Minister of Foreign Affairs

I am pleased that after a long and laborious effort the National Strategy for Sustainable Development of Romania has finally gained shape and substance and passed from the stage of academic debate to one of pragmatic political action. The project, initiated by the Ministry of Foreign Affairs, was generously supported by the UN Development Program, and in its final stages governmental institutions, as well as parliamentary political parties, trade unions, employers' associations, the academic world, and civil organisations united in a working group established by governmental decree contributed significantly to this project. The way, in which this project was elaborated - sketched, debated, edited, improved, completed, amended and re-written - sends an encouraging and possibly exemplary long-term signal.

The paper is clearly structured and offers strong arguments. Although it could be improved - flaws can be found whenever something truly new is created - the proposed Strategy looks beyond the circumstances of the moment and projects for the target year 2020 definite and, hopefully, realistic goals.

Sustainable development is more than a fashionable axiom. It postulates continuous re-evaluation of the dialogue between man and nature and solidarity among the generations in the process of pluri-dimensional evolution of human society. Setting the plan for Romania's development over the next decades on this noble concept clearly indicates its direction as well as the phases we have to go through in order to join the stable fundamental trends of the system of values, institutions, procedures and working methods that make up the substance of Western civilisation.

Not only the former Communist countries, but also the entire system of international relations as we have known it, are in a period of transition. The speed and extent of changes that are taking place in the world force us to be increasingly creative and flexible. The present paper increases my confidence in the intellectual capability of the Romanian people, in their ability to come up with solutions appropriate for the challenges of today's changing world.

Andrei Gabriel Plesu

The President of the Romanian Academy

Being part of a wider programme of the Romanian Academy, which, in conjunction with the UN Development Programme tries to structure and define Romania's path for the next decades, the Strategy for Sustainable Development of Romania follows the project "Romania 2020". A new Strategy? Another one? There are many sceptics who believe that development strategies should be a thing of the past. They support their claim by pointing out the numerous plans proposed by Romanian experts, mainly economists, which were ignored by the governments after 1989. Why encourage further initiatives of the same kind? The answer is that a strategy for development must be achieved because no society is able to evolve in our world of today without a programme and an order of priorities.

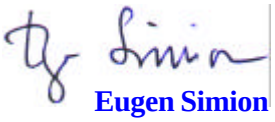
It must be mentioned that this concept was stated for the first time ten years ago in a collective work (**Our Common Future**) known in specialist literature under the name of the "Brundtland Report". It's main claim is that decisions and actions taken today must consider the fact that future generations have the right to enjoy what our planet has to offer. In a report related to this topic, I found the following quote by Joseph Bruchac: "We don't leave the Earth to our children, but we lend it to future generations." Superbly said. Experts in the field place the concept of sustainable development among the five most important principles of scientific ethics, at the same level as the principles of equity, precaution, deontology of scientific activities, organisation of debates and decision making. If this is not adhered to, society risks embarking upon a process of permanent and damaging transformation. But is such a strategy of sustainable development not a return to the old centralised system, to the five-year plans, to a planned economic system and other phantoms of the totalitarian system? Such a thought is completely unfounded for reasons I will not go into here. I would simply like to say that true democracy can oppose to a stifling, dictatorial centralism in economy and in culture as well not with chaos but with a national programme established in accordance with priorities, possibilities and circumstances.

The Strategy for Sustainable Development is part of the globalisation process; it is an approach that is defined, measured, and described in terms of developing socio-economic systems that do not ignore environmental matters. Sustainable development is a task for the whole of mankind, an essential principle of this world. No democratic country can conceive strategies without taking into account the dimensions of socio-economic systems and capital resources, as this combination leads to sustainable development. At a recent conference in Budapest, the "World Conference for the 21st century: A New Commitment"(June 26th - July 1st, 1999), organised by UNESCO in co-operation with other international scientific bodies, one of the topics mentioned by many scientists and by those responsible for organising research was a more resolute involvement of the science sector in the development of human society, especially in the field of sustainable development. The creative minds of a generation should propose solutions for development (feasible solutions, acceptable solutions, solutions that can be improved) in order to avoid letting chance decide the destiny of a human community.

It is essential to note the fact that this paper of considerable size, a project promoted by a United Nations Development Programme called "National Centre for Sustainable Development" under the patronage of the Romanian Academy, has found the resources to bring together ideas, projects, and initiatives found in our country. The present paper represents a joint effort of Romanian researchers, for the first time supported by civil organisations, and is a vast, ambitious project. The purpose of this paper is to create a strategy for Romania's long-term sustainable development, within the limits of natural capital preservation. It must be mentioned that this paper was written in co-operation with research institutes, high-ranking Romanian personalities, university networks, the business sector, trade unions, employers, non-governmental organisations, etc., with additional support from the Romanian Academy.

We are convinced that this paper will encourage regional co-operation initiatives and will lead to the creation of new projects and stimulating ideas. It is obvious that, once accepted, a strategy must be a supporting pillar of any long-term governing system. It should not serve the interests of any one political party, but national interests. Finally, these objectives must be found in the education system's orientation towards the future. The education system should seek to create a new awareness in young people.

The Romanian Academy would like to thank everyone who has contributed to this project and is grateful to the UNDP experts who have supported the making of this study, as well as to civil society as a whole. The Romanian Academy considers the fact that the government has established a working group a proof of the existence of a democratic process in Romania. I will not hide the fact that, in addition to the present Strategy, the Romanian Academy is considering other projects with similar aims. We are, for instance, trying to elaborate a Strategy of Scientific Research. More ambitiously, we propose a short- as well as long-term development project, which will depart from the current economic data in the context of international factors. By the end of 1999, a team of experts from the institutes of the Romanian Academy will prepare a report on these matters that, in fact, concern all of us.



Eugen Simion

The Resident Representative a.i. of the United Nations Development Programme for Romania

As a result of the unprecedented socio-economic development in the second half of this century, the world was faced with a vital problem: How can we maintain continuous development without harming the equilibrium of our planet? The analyses and debates initiated at global level in the last two decades, after the world had become aware of this matter, have gradually shaped the basis of a new concept, which seems to be the only viable solution to this challenge - "sustainable development".

Defined as "the capacity to satisfy the needs of the present generation without compromising the chances of future generations to satisfy their own needs", this concept has been developed and adopted, at global level, at the "Agenda 21" summit held in Rio de Janeiro in 1992 (with more than 140 participating nations). At the same time, this document is supposed to serve as an implementation guide.

The United Nations Development Programme office in Romania actively promotes the concept of sustainable development by focusing its work on reducing socio-economic disparities. With this in mind, a significant number of programmes aimed at four major problems faced by the country today have been developed. These problems are reforming the state, establishing social stability, providing the people with political power, and implementing the sustainable use of natural resources. In line with this policy and following the request of the Ministry of Foreign Affairs, in 1997 the UNDP financed the project "National Center for Sustainable Development ". This project is a joint venture with the Romanian Academy and the Black Sea University Foundation, and its first task was to draw up the "Agenda 21" for Romania.

During its elaboration, which took about two years, the study benefited from technical assistance and information provided, directly or indirectly, by a large number of governmental, non-governmental and academic institutions, state-owned or private enterprises and trade unions. A draft version of the study has been published and distributed for suggestions and comments (500 copies as well as on the Internet).

Though the project has benefited from high level expertise and consulting, the UNDP is perfectly aware that the process of implementing the strategy will show a number of aspects that will have to be rethought, readapted or redimensioned. However, this dynamic process of periodical improvement of the strategy on the basis of the results obtained is a common practice in all countries that have started a similar initiative, and it is one of the main methods leading to positive results.

Considering the present paper as the first positive step made by Romania towards achieving "sustainable development", I would like to express my gratitude to all those who have contributed to its completion. Further challenges lie ahead - the drawing up of the National Action Plan for the "Agenda 21", and the identification of parameters for sustainable development. Once these two additional components are operational, a coherent set of instruments will be available to Romania, and will help to transform this country's potential into development for all.

Paul van Hanswijck de Jonge, Officer-in-Charge

First Part: Objectives and Priorities

CHAPTER 1

The International Context, Principles and Objectives of Sustainable Development

For more than a decade, the international community has been exploring the issue of **sustainable development**. This concept was initiated by a report of the International Commission for Environment and Development entitled **Our Common Future**, also known under the name of **"Brundtland Report"**, published in 1992.

At the Rio de Janeiro Conference in June 1992 it was stated that environmental protection and economic development are compatible since their objectives are complementary. Sustainable development became the global strategy for the next century when **the Declaration of Rio de Janeiro** was signed and the **"Agenda 21"** was adopted.

The key problem of sustainable development is **reconciling** two goals of mankind, economic and social progress on the one hand, and environmental protection on the other. Both of these goals must be met in order to improve the quality of our life.

The largely accepted definition of sustainable development, the capability to satisfy the demands of today's generation without destroying the capability of future generations to satisfy their own needs, implies that economic prosperity and environmental protection have to support each other. Therefore, according to this definition, **equity** is a fundamental principle of sustainable development. This refers to equity within the same generation, i.e. equitable distribution of wealth within society, but also equity among different generations.

The purpose of economic development is not only to satisfy basic human needs, but also to increase the quality of life, which implies health protection, education, social development and an improved environment. All forms of economic development have an impact on environment, since natural resources are limited and economic activity creates by-products such as pollution and waste. In a sustained context, there are several ways in which economic activities can protect the environment. These include efficient energy conservation measures, preventive management technologies and techniques, improved design and marketing of products, reduction of non-recyclable waste to a minimum, environmentally sound agricultural practices, better use of land and buildings, more efficient transport systems, etc.

Another important point is the rational use of economically valuable and limited natural resources. These include land, vegetation, the stock of fish from seas and oceans, and the diversity of species, all of which offer opportunities for development. Even where no direct market transition is involved, people assess certain aspects of the environment, such as scenery, flora and fauna, parts of the architectural heritage in terms of aesthetic pleasure and want to pass them on to future generations unchanged.

Initially, most measures taken to protect the environment were based on the desire to protect our health. As a result, many health hazards were by and large eradicated. In the developed countries, pollution nowadays rarely has a direct effect on people's health. Therefore, authorities are now focusing on solving problems where a relation of cause and effect is harder to identify.

Currently, environmental protection does not only deal with problems that affect people directly, but also with global issues such as the protection of the ozone layer and climatic changes.

Since the environment belongs to all of us, environmental protection demands joint action of public institutions and the business world. In order to support this approach, within the past few years more and more countries have drawn up a set of principles of sustainability, used by decision makers at both national and international levels within the past few years.

Governments must base their decisions on facts, using the most recent and precise **information** available, as well as **the results of scientific studies**. Hasty actions based on inadequate documentation are counterproductive, since fixing the potential damage could be costly and time-consuming.

The wealth of mankind cannot be measured only in terms of productivity, but must also take into account **renewable and non-renewable natural resources**. Therefore, the mission of sustainable development is to find a way to increase total wealth and, at the same time, use renewable natural resources in a way that preserves them, and non-renewable resources in a way that takes future generations' needs into consideration. Sometimes, for the sake of economic development, certain negative

effects on the environment should be accepted, but under different circumstances an ecosystem or a certain aspect of the environment must be protected. Thus, a clear notion of the weight given to each of these factors is required.

Traditionally, the environment has been protected by imposing regulatory measures that control, for instance, the emission of polluting agents and the exploitation of land. However, rules and regulations are not always the best way to achieve either environmental or economic objectives. Implementing regulation might, for instance, involve hidden costs because, it may generate waste that may require costly treatment processes or storage. Therefore, the simplification of regulations must be compulsory wherever possible. The use of economic methods is desirable when taking decisions regarding environmental protection. This could lead to the development of innovative techniques for a better protection of the environment.

In general, a cost-benefit analysis should be used when deciding which aspect of the environment must be given priority. Evaluating risks can be useful when decisions and plans are being made in uncertain conditions. Of course, uncertainties must be identified and must be weighted appropriately when evaluating risks.

The overall principles of sustainable development have been established, though they will, to a certain degree, still be the subjects of debates at national and international level. Economic development is important for any society, but the benefits of economic development must exceed its costs. These costs also include the price of environmental protection. Currently, attention has to focus on how to apply the principles of sustainable development to the different areas of economic and social development.

For Romania, sustainable development is not a matter of choice, one option among many others, but it is the only responsible way to plan medium- and long-term development in line with Romania's national interest and the requirement of international collaboration.

Romania's European and Atlantic integration has been a primary objective which has been pursued in varying degrees by all governments since 1989, and has always received the support of the Romanian people. This requires Romania to adopt a coherent set of values corresponding to those of the Western civilisation. ***Correlating the objectives of national development with the experience already gained by the West regarding the quality of life and the interest in the wellbeing of future generations is part of this integration process.***

Therefore, the first national strategic study for sustainable development does not simply attempt to follow the most recent trends of the international scientific community. The endeavour to incorporate the philosophy of sustainable development in any national or local development strategy is essential for Romania to cope with the requirements of, and fit into, the complex world we live in today.

The Objectives of the National Strategy for Sustainable Development

Sustainable development means progressive improvement and preservation of the population's well-being, paired with rational use of natural resources and conservation of ecosystems.

Fundamental objective:

? Increased standard of living and prosperity for individuals and society as a whole at the national level; economic development within the sustainability limits determined by the natural capital in a way that should guarantee the quality of life for future generations.

Main objectives:

? To guarantee public health. To ensure complementarity and correlation among all economic and social sectors for the purpose of sustainable human development.

? To establish those sectors that could potentially be competitive as priorities for sustainable development in the context of the overall international trends and in accordance with the international commitments Romania has made.

? To adjust the size of social and economic structures, to reshape them and to transform them into a sustainable system. To ensure the continuous and stable improvement of the standard of living in accordance with the requirements of E.U. integration.

? To stop the deterioration of the country's natural capital and to start rebuilding it.

? To develop a coherent legislative and institutional framework, compatible with that of the E.U. countries, and to consolidate democracy by encouraging civic participation.

? To create human resources meeting the international scientific, technological and information standards in all social and economic sectors.

? To ensure continuous monitoring and evaluation of economic, social and ecological performance within a system of quantitative and qualitative indicators.

CHAPTER 2

Priorities of Sustainable Development

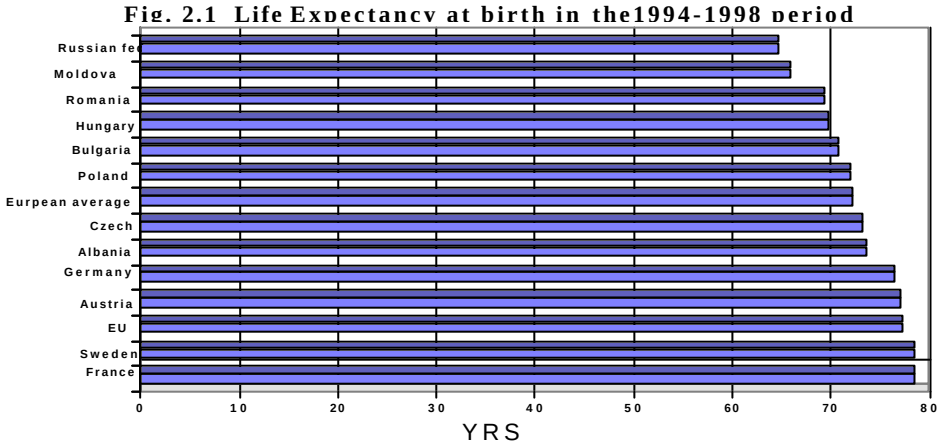
At an early stage, it is necessary to create an environment, or a support system, favourable to sustainable development, aiming at keeping the following priorities: ***public health, education, economic growth, and conservation of energy resource*** sustained by the complex and interdisciplinary activity for the ***protection of the environment***.

2.1. Public health

Every human being has the right to lead a healthy and productive life in harmony with the environment. A community evolves by the activity of individuals, and therefore the central point in sustainable development is human development, which presupposes, first and foremost, the improvement of public health.

Currently, the state of health among the Romanian population is critical, and this fact represents a serious threat to the future development of society. A brief analysis shows that:

? Life expectancy at birth for Romanians is amongst the lowest in Europe, by 7-8 years less than in developed countries.(fig.2.1)



Source: World Report on Human Development, UNDP, 1998

? Moreover, life expectancy at birth has been falling in the past nine years (69,6 years in 1990 and 69,2 in 1998), with significant differences between rural and urban environments.(tab. 2.1)

Table 2.1

Life expectancy at birth in Romania

Period	Urban	Rural
90 - 92	70,54	68,75
91 - 93	70,01	68,76
92 - 94	70,02	68,67
93 - 95	70,05	68,46
94 - 96	69,94	67,99
95 - 97	69,82	67,80
96 - 98	70,09	68,11

Source: National Commission for Statistics, 1999

? The high number of infant and maternal deaths places Romania among the lowest places in the European comparison. The infant death rate shows significant differences between rural and urban environments.

? Respiratory diseases, including acute infections of the respiratory tract, are among the main causes of death, occupying the third place in the general death rate and the first in the infant death rate; this

reveals that neither an acceptable standard of living (food, shelter, drinking water), nor access to health services, are ensured. The standard of living, assessed in terms of GDP per capita, affects the main indicators referring to the state of public health and that of the medical personnel available to the population.

The results of the estimate regarding the health burden show that a lot of potential life years are lost, and their number is increasing significantly if we also consider the consecutive appearance of illnesses.

To resolve the current critical situation, a new approach at the national level is needed. This fact requires the creation of a strategy with precise aims, in which health must be perceived in a new light, as it is a significant factor for almost every sector of society, not only for "the health sector".

2.2 Education

Education and the enhancement of **human capital** represent a major dimension, and at the same time a solid support in the process of placing Romania on the path towards sustainable development. Investing in education and continuous professional training of human resources, together with health and research, is a central condition for overcoming the economic and social decline of the country. ***In the long term***, it will prove to be ***the most beneficial investment***, as man's intellectual and creative-participative potential is virtually unlimited.

? For various reasons, a phenomenon which can be described as decapitalisation of human capital occurred during the transitional period, although transition itself is a shock learning experience.

? The years 1994 and 1995 practically marked the beginning of a global reform of secondary and university education. The reform was aimed at making the Romanian educational system, compatible with those of the developed countries in terms of organisation and performance; modernising the structures, content, and techniques of the education process; improving admittance procedures, evaluation, certification and recognition of studies; increasing institutional capability.

? The Education Law (no 84/1995) declared education a ***national priority***.

Educational reform set several targets for 1998 with a view to promoting more fundamental changes:

1. Curricular reform and harmonisation with the established European standards;
2. Transformation of education from a predominantly reproductive system to one centred around problem solving;
3. Creation of a new network between schools, high schools, and universities on the one hand, and the economic, administrative, and cultural environment on the other;
4. Improvement of infrastructure and introduction of electronic communications systems;
5. Reform of school and academic management by de-centralising and granting institutional autonomy;
6. Transfer to advanced forms of international co-operation.

Actually, due mainly to the lack of resources, which in turn is caused by the austerity of the national budget, **education** and professional training continue to be affected by serious problems, with long term negative consequences which also threaten the projects of sustainable development.

? **The average schooling period** in years - according to the 1992 census - was 8.3 years for the whole population and 7.7 years for women.

? The "school life expectancy" in Romania was approximately 10 years in the period 1993-1997, whilst in E.U. countries this was between 13-15 years, and in some countries it approached 16 years.

? The **degree of literacy** of the Romanian adult population, whilst oscillating between 96-97% in 1996-1997, is also lower than in the E.U. countries, where it is 98-99%.

? The percentage of **7 to 14 year olds not included in compulsory (primary and secondary) education** in 1997 was 5%, less than in 1991, when it was 9.5%, but this is still an unsatisfactory value.

? The **gross rate of enrolment in education** is variable, depending on the type of educational institution and also varying over any one school year.

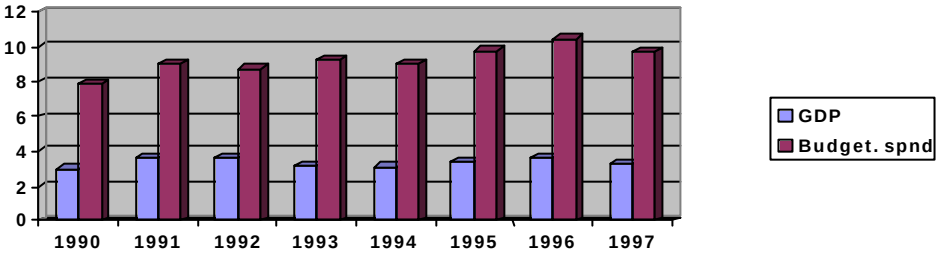
? The motivation for attending higher level secondary education is decreasing, from 90.7% in 1990, to 68.6% in 1997, while the average rate of enrolment at all education levels has remained relatively constant (62.9% in 1997, compared to 62.4% in 1990).

? Demand for places in university education is growing: whereas in 1990 the gross rate of enrolment in higher education of 10.6% was amongst the lowest in Europe, in 1997 it increased to almost 23%, remaining, nevertheless, below that of developed countries (30-40% or more).

? According to some surveys of school attendance in the system of compulsory education, commissioned by the Ministry of National Education, the rate of s**tudents dropping out of school exceeds 2.0%**.
? **Chronic underfunding of education**: year after year public funds allocated to education are several percentage points below the quota established by the Education Law. (4% of GDP, Law 84/95(96), Art. 169).
? Some school units function in improper conditions: more than **60%** of **primary education** units, which ensure schooling for 15% of pupils from that age group, function in a **simultaneous teaching regime** .
? Significant **discrepancies regarding students' area of residence, local community and even their sex**: Differences can be found in a variety of areas regarding the nurturing and development of human capital.

Though there have been some attempts, continued professional training in Romania is still not coherently organised. Mainly, it was and still is focused on retraining and reintegration of the unemployed. Unfortunately, there are neither satisfactory funds allocated to this end, nor are the courses offered for the unemployed properly accredited and certified. A lack of institutions offering adequate qualification courses can also be observed. The results remain modest and vary from year to year. The scarcity of employment demand has strong impact on the motivation to pursue further study, both at the level of companies and of individuals.

Fig. 2.2 The weight of public spending for education in the GDP and in the fortified budget (percents)



Source: The National Commission for Statistics, 1998

Table 2.2

Indicators of human capital in 1997

	Romania	Level		Environment and genders		
		Maxim	Minim	U	R	F
Education indices (1996)	0,853	0,953 (Bucuresti)	0,766 (Giurgiu)	0,920	0,767	…
7-14 years old not included in schools (%) (1996/1997)	5,6	12,5 (Harghita)	2,6 (Botosani)	4,9	6,7	….
The average schooling period (years) (1992)	8,3	10,2 (Bucuresti)	6,1 Giurgiu)	10,0	6,4	9,5 (U) 5,7 (R)
Secondary education population in % compared to population the 15 years old and over - (1992)	71,9	81,3 (Brasov)	60,5 (Teleorman)	78,0	64,8	77,1 (U) 59,2 (R)
Population with University studies % compared to the 23 years old and over - (1992)	6,5	16,5 (Bucuresti)	2,6 (Calarasi)	11,4	1,3	9,1 (U) 1,0 (R)

Source: National Commission for Statistics, 1998

Romania's sustainable development in the next century will depend considerably on the following factors: **reconsidering the investment in human capital** development at all levels of the socio-economic system; encouraging the motivation for permanent education and learning by ensuring the use and appropriate remuneration of acquired skills; strengthening the achievements of the education reform, including the new institutions created in 1998; ensuring that the legal and institutional framework is compatible with that of other European countries, and that it can produce, evaluate, and certify acquired competence on the basis of measurable performance criteria.

2.3. Economic Growth

2.3.1 Among the Central and Eastern European countries, Romania shows a series of ***favouring features*** which, if put to good use, could support sustainable development on a long term. Among these, the following are relevant: **a) natural capital**, despite aspects of significant destruction and over-exploitation which is due to the lack of conservation and protection in the past; **b) human capital,** seen from a quantitative and qualitative point of view, Romania being the second largest country in Central and South-eastern Europe in terms of population with a relatively larger proportion of young people, a more balanced structure on age groups; cheaper labour force; a satisfactory level of training, although this comparative advantage is beginning to disappear, due to a delay in harmonisation with European standards of qualification; **c) political stability,** by comparison with other countries in the area, where acute and latent conflicts are currently developing.

For Romania, the transition towards a market economy has proved more complex and longer than expected. Romania had a difficult start as compared to other countries in the region, caused partly by the critical economic situation perpetuated from the past and partly by the planning, coherence and implementation pace of the reform. In this situation, the existing imbalance (between supply and demand, structural, territorial, etc.) became more acute; some of the mechanisms failed; the new financial and economic institutions did not reach the degree of maturity necessary for the normal functioning of a market economy, for the creation of the conditions needed for a sustainable economic development. Neither the signals, nor the aid received from abroad did rise meet the country's needs; in other cases they have only partially been used.

In the economic field, a series of noticeable achievements can be cited:

? The creation of an institutional framework for the market economy, though the normative and regulatory acts still have to be completed to help create an integrated market system, in accordance with the new economic conditions and in keeping with the requirements for economic integration;
? Liberalisation and creation of an externally-oriented economy (liberalisation of prices, of foreign trade, cutting subventions); allowing the laws of the market to play a more significant role in the economy, thus limiting the amount of government administration and intervention;
? Introduction of a variety of forms of ownership, privatisation and economic restructuring. In 1998, the private sector accounted for 58.4% of the GDP; 29.8% in industrial production; 90.5% in agricultural production; 78.2% in building operations; 49% in foreign trade; 90.6% in retail trading and 54.2% in commercial services for the population. In 1998, 56.5% of the workforce was employed in the private sector;
? Decentralisation of the decision act increased local autonomy, elimination of monopolies, subsidiarity. Development of social partnership relations, including the creation of institutions and special forums which work in a tripartite regime.

2.3.2 Romania's economic situation and development are far from meeting the requirements of a sustainable development. During the last ten years, the structural crisis and the inherited unbalances, the delay of the economic and institutional reform, the incoherence and incongruities and gaps between the components of the economic reform, between the nominal and real economy, have caused a prolonged decline of the country. The hectic and destructive use of resources has also contributed to this situation. The impact on the environment was most severe: on the one hand, wasteful use of resources has become chronic, and on the other, the economy, continually impoverished, can hardly cover the costs for the protection of the environment - though they are relatively low, as compared to those in the developed countries. The evolution of the economy is marked by distortions, with a strong note of non-sustainability.

The economic development is marked by a prolonged crisis, by a growing vulnerability, both facts that widen the gap between Romania and the developed countries.

In economy, some strong tensions and pressures were amplified and accentuated:

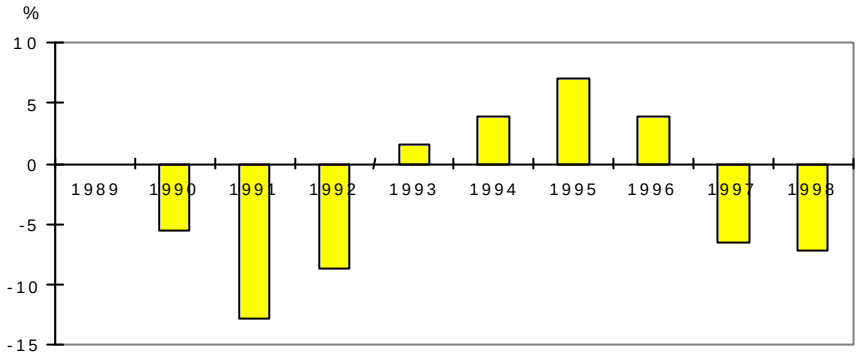
a) Unbalance between production and consumption, the latter being constantly higher, between factors of production and economic efficiency and performance. The delay in the reform of the real economy, in the restructuring of companies causing losses, in solving the financial blocking, of

budget debts, and of social pressures, combined with insufficient encouragement for the business environment, is reflected in the evolution of the macro-economic data available.

i) On the eve of the third millennium, the Romanian economy is **fragile and vulnerable to both external and internal shocks**; the ability to create added value, efficiency and competitiveness diminished noticeably, and the standard of living and quality of life are on the decline; rigid economic structures, market malfunctions, poor managerial qualities, rampaging black market, income discrepancies (though normal in a healthy economy), are found in the context of a falling standard of living and of growing poverty. (Almost 30% of the population lives under the poverty level, according to data included in the National Report on Human Development, 1998.)

ii) The GDP has evolved in a way opposed to the requirements for a sustainable development. In 1998, it represented 76% of the real level obtained in 1989. GDP per capita, at Purchase Power Parity (PPP), was under $3,679 in 1998, representing only 23-24% of the E.U. average.

Fig. 2.3 Annual GDP vaiation, 1989-1998 (+/- % compared to the previous yr)



Source: The National Commission for Statistics,1998

b) Uncontrolled and soaring **inflation, exchange, and unemployment rates** with paralysing effects on the economy, discourage savings and investment, and the start of economic reform.

? High inflation is persistent: after a drop in the annual inflation rate in 1995 and 1996, it acquired the characteristics of hyper-inflation (154.8%) in 1997, and 59,1% in 1998;

? Rapid depreciation of the national currency, falling from 21 Lei to $1 in 1990 to Lei 15,622 to $1 at the end of May 1999. This dynamic, caused by poor economic performance, led to a diminishing credibility of the currency and increased prices and inflation;

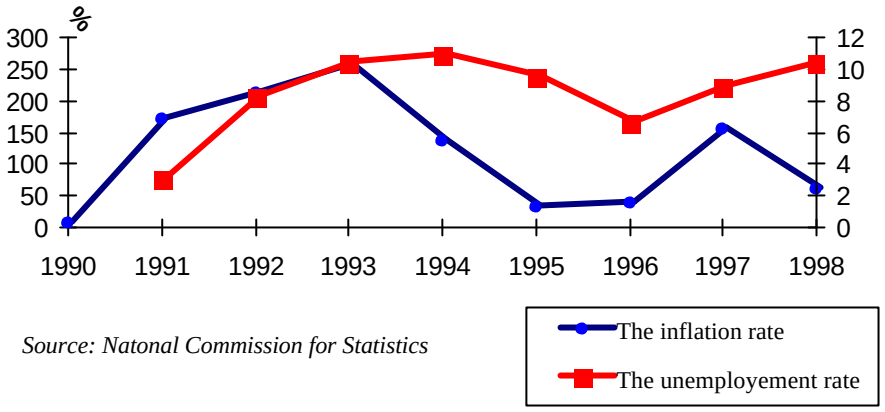
- Unemployment. In terms of the proportion and the average period a person spends in the unemployment pool, unemployment has become chronic. The unemployment rate reported for April 1999 was approximately 11.6%, with the rate of female unemployment at 11.5%. A third of the jobless are young, almost half of those who receive unemployment benefit must be considered long-term unemployed.

c) Tensions in the National Economic **Structure**

? Structural changes in the national economy are modest and have little effect on the protection of the environment.

? To the creation of the net added value, the main agricultural and industrial activities contribute by 47.7%, while the services sector, which registered some growth after 1989, holds 37.8%, especially from commercial, transport and tourist activities.

Fig. 2 .4 The annual average inflation rate in the 1990-1998 period



Source: Natonal Commission for Statistics

? As regards the industrial sector, an important pressure factor on the environment, no structural or significant changes can be noticed. The economic decline in the areas of mining, metallurgy, iron and steel industry, and chemical industry have slackened the pressure on the environment, but no recovery measures for the affected areas have been implemented.

? The experience gained by the developed countries shows that during the last three decades, an unabated shift of national economic structures towards environmentally friendly activities has taken place. Consumption of natural resources and energy, as well as the amount of polluting agents and waste, have decreased due to the decline in the mining, extractive, and heavy industries. At the same time, the growth of highly technical and non-polluting industries was encouraged.

? In Romania, the structural improvement of the economic sectors in line with the requirements of environment protection is a vital condition for the achievement of sustainable development. The shift in the proportional importance of the various sectors should be directed towards the growth in value of the agricultural products, forestry, industry, building and services (trade, transport, mail and telecommunications, tourism, hotels and restaurants, public administration and defence, health and social assistance, and other services for the public), by making use of technologic progress and the improvement of ecological achievements in production and products.

The development of an eco-efficient national industry will encourage the creation of a competitive domestic market for ecological goods and services and will simultaneously find profitable opportunities on external markets.

d) In the presence of the following factors: decrease of real GDP, inefficient foreign trade structure, insufficient financial resources, difficult access to foreign capital markets, constant discrepancy between the higher consumption as compared to production, the economic development encounters **major structural deficits**. The trade balance and current account are in the negative, with a tendency of growing during the past years; year after year the deficit spending exceeded predictions and the domestic public debt as well as the foreign debt have accelerated their growth, running the risk of affecting the future generations' standard of living, see Table 2.3.

Table 2.3

Evolution of economic indices 1990-1998

	1990	1991	1992	1993	1994	1995	1996	1997	1998
- Domestic public debt	…	41.1	220.6	1,001.9	3,232.1	6,119.3	11,4.13.6	14,000.0	31,100.0
- Foreign debt (mil.$)	230,0	1,143.0	2,479.0	3,357.0	4,597.0	5,482.0	7209,0	8,444,6	8,967.0
- The weight in GDP of the budget excess/deficit (+/- %)	1,0	-3.2	-4.6	-0.4	-2.4	-2.9	-4.1	-3.9	-4.5

Source: National Commission for Statistics, 1998

? Since 1990, the **balance of international payments** has systematically been deficitary, on the average about $1.8 billion a year; in 1998, the trade deficit was $3.5 billion. The same negative

tendency - provoked by the foreign trade deficit, by the amount of the foreign debt, and by its management - also shows in the **current account balance**. In 1998, this was $3 billion, representing 7% of the GDP, a level well above that accepted by foreign investors - around 4.5% of the GDP.

? Romania's **foreign debt**, in the context of growing economic vulnerability, will generate strong tensions in the next few years. In 1998, the country's foreign debt rose to approximately $8.9 billion, the medium and long term credit stocks accounting for about 30% of the GDP. According to international standards, this is below the emergency threshold (60% of the GDP). It does, however, create **tensions** in the systems, caused by the **rapid growth of the foreign debt service**. In 1999, this will be $3.2 billion, 40% of the volume of exports, compared to the alarm quota of 25% of the GDP. There are several explanations for such tensions. Beyond the phasing and concentration of due payments during this year, the main difficulties arise from the rigidity and structure of the Romanian trade, limited in the past years to approximately $8 billion p.a., while imports exceeded $11 billions p.a. Exported products are still mainly energy-intensive or have a low added value, or they have a low degree of competitiveness on very competitive foreign markets. In this light, the decrease of tensions and the avoidance of insolvency depend on: reviving the export trade by stimulating production, and especially that of competitive services and products; achieving a positive trade balance; multiplying Romanian exports compared with the foreign average. This is the only way foreign currency reserves can be preserved and a further crisis avoided.

? The **depreciation of the credit portofolio** of the banking system as a result of the attempts to stabilise the macro-economy caused an increase in interest rates.

? The accumulation of a great number of **non-performing credits in the banking sector** reduces the reliability and credibility of the banking system. This phenomenon is also associated with the banks' investment strategies, oriented mainly towards speculative activities and less towards supporting economic endeavour and enterprise.

? **The aggregate State budget deficit** oscillates, with few exceptions, around 2.5% of the GDP. The 1999 budget is set on a 2.5% budget deficit, which obviously worsens the degree of austerity to which some important economic sectors are subjected. However, if we add the quasi-fiscal deficit to this (arrears, bad debts, underperforming credits, etc., which are partially reflected in the budget), the impact of the deficit on the GDP is significantly larger. Thus, we can draw the conclusion that there are two keys to **drawing up and putting into practice a feasible budget** - controlling the budget deficit by policies of income collection, and restructuring the real economy in order to reduce the size and the impact of the quasi-fiscal deficit.

? **Existence of a financial block on the domestic market.**

e) The rigidity of the labour market, with tensions between labour demand and supply.

? **Quantitative and qualitative deterioration of the employment of the workforce.**

? The employment rate is falling systematically. Between 1990 and 1997 over 1.8 million people lost their jobs, and the number of people being paid a salary dropped by over 2.5 million. The proportion of people earning a salary the employed population decreased from 75.1% in 1990, to 62% in 1999.

? **Employment structures** are changing. However, these changes are contradictory and mostly counterproductive, thus reflecting the crisis of the economy. One tendency regarding employment structures shows the increase in the number of people working in agriculture. The employment capacity of the services sector remains modest and varies from year to year.

Table 2.4

Population structure according to the employment sectors 1990-1996

% of total

	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture, forestry, fishing	29.1	29.8	33.0	36.0	36.5	34.5	35.5	37.5
Industry and constructions	43.5	39.9	37.1	35.8	34.4	33.6	34.3	32.0
Services	27.4	30.3	29.9	28.2	29.1	31.9	30.2	30.0

Source: The National Commission for Statistics, 1998

? In the period 1994-1998, underemployment varied between 2.7% and 3.9% of the employed civilian population, according to data furnished by AMIGO. Among **young people**, there is a significantly higher rate of underemployment (7.6% in 1997), and so is also among **men** (3.3%) and **the population living in the rural areas** (4.4%).

f) Savings and investing are discouraged. During the transition period, the economic capacity of ensuring a capital **accumulation rate** high enough to support the restructuring and reforms along the lines of efficiency and competitiveness was extremely low and varied considerably. The ratio between the savings rate and public spending has been sinking continuously, from over 24% in 1991 to less than 10% in 1998, which is mostly due to a decrease in savings and in the privatisation of state-owned enterprises.

? **Gross generation of fixed capital** The average investment rate, represented as gross generation of fixed capital in the GDP (the accumulation rate) is very low, with large variations from year to year for an economy subjected to massive restructuring, a situation that also limits investments in environment protection. Accordingly, net investments are also reduced, due to inefficient structural changes. Compared to 1989, the volume of net investments in 1997 was 52.8%.

Table 2.5

Rate of FCGA in GDP, 1990-1998 (%)

1990	1991	1992	1993	1994	1995	1996	1997	1998
19.8	14.4	19.2	17.9	20.3	21.4	23.1	22.0	18.1

Source: The National Commission for Statistics, 1998

g) Health and durability of the economy also depend on the **quantity of resources** that can be invested in the protection of the environment. In Romania, in 1997, total spending on the protection of the environment was of lei 3,661,575 billion, which is 1% of the GDP, whereas in the developed countries this proportion is almost twice as much. These spendings on various activities are presented in table 2.6. During the last few years the spending for environment protection followed a downward trend, in direct relation with the decline in investment.

The evolution of the main macro-economic aggregates has been in a permanent deadlock. The various mechanisms involved in the process were insufficiently co-ordinated and approved, which caused negative repercussions. Therefore, the economic reform became costly, with regard to the consumption of resources and to the compliance of production to market demand; the burden of the structural heritage - especially in industry - severely increased the cost of transition. From a human development perspective, the evolution of the economy was unsustainable, inflationary, impoverishing and showed a high degree of vulnerability, which is still growing for a significant part of the population.

Table 2.6

Environment protection spending according to activity sectors in 1997

Activity sectors	Total	Pollution prevention and fighting	Natural environment protection	Research, development, education	General environment management
Total:	**3,661,575**	**3,236,220**	**254,479**	**79,818**	**88,040**
Agriculture	57,994	16,431	41,244	15	304
Forestry	51,979	147	51,776	53	3
Extractive industry	267,465	181,551	44,094	35,734	6,086
Processing industry	936,270	900,811	1,841	6,433	27,185
Waste recycling	232,239	232,150	4	20	65
Thermal and electric energy, natural gas industry	1,473,967	1,391,769	68,583	6,333	7,282
Transports	69,430	62,473	1,893	4,302	762
Public administration	108,098	25,060	33,867	3,319	45,852
Waste collection and elimination, scavenging	361,928	361,854	50	22	2
Scientific research	32,954	8,584	3,436	20,634	300
Other sectors	69,251	55,390	10,709	2,953	199

*Source: the Romanian Environment Report**, 1998 Edition; National Commission for Statistics**.*

Moreover, this negative development has caused a marginalisation of the Romanian economy in the European context, which leaves it in a critical situation. In the absence of a new concept and of a short, medium, and long-term global strategy, Romania is moving away from the aims of sustainable development.

2.4 Conservation of energy resources

The energy sector in Romania is facing the following problems: lack of a long-term energy strategy consistent with a sustainable development strategy; scarce and incoherent legislation and regulation in this field; poor institutional framework; virtual exhaustion of known oil and natural gas reserves; inadequate price policy for energy; continuation of various forms of subsidies; obsolescent and inefficient technologies throughout the energy chain (resources - production - transport - distribution - consumption); theft of considerable quantities of energy and fuels; difficulties in securing the supply of fuel, electric, and thermal energy to towns and industrial units; exports based on energy-intensive products; continuous financial blocks and difficulties in finding foreign currency for imported fuels; dependence on a single foreign gas provider; high level of environment pollution; excess personnel, in the context of strong trade union pressures; bad energy management; limited administrative and financial autonomy, due to continued state control in this field.

The fact that the per capita energy consumption in Romania is twice that of developed countries can be explained by inefficient use, but also by the importance of energy-intensive, export-oriented industries in the economy (metallurgy, aluminium, cement, petrochemistry, building materials). Since the products are not refined in the country, they do not contribute to the GDP to the same extent that their extraction consumes energy. Reduced global energy efficiency, physically and morally dated installations, use of coal with low calorific efficiency, and the refining of poor mining products all add to the high energy consumption. Generally, sustainable development in the energy sector implies satisfying energy demands, wherever they might occur, not by increasing the amount of energy supplied and consumed (including imports), with the exception of renewable resources, but by reducing consumption. This can be achieved by introducing advanced technologies, by restructuring the economy, or by changing the public attitude regarding energy. In the given case, a feasible prospect for sustainable development in the next 20 years takes into consideration a reduction of energy consumption by an annual average rate of 3-4%.

CHAPTER 3

The Judicial Framework

3.1. Reference Points for a Potential Judicial Framework for Sustainable Development

Transposing the objectives of sustainable development to a judicial level involves a preliminary assessment of the legislation adopted since 1989, as well as establishing a legislative agenda according to the priorities that have been identified. This action must take into account the obligation to comply with the legislation already in force in the E.U., the obligation to observe the international agreements and conventions on the protection of the environment that Romania signed. The financial means of Romania, as well as the need to maintain a balance between the quality of life and the economic growth must be had in view.

The systematisation of the judicial framework according to the objectives and principles set forth by the National Strategy for Sustainable Development can only begin as soon as the property issue is clarified judicially and practically, i.e., by governmental implementation programs.

The reference points for the judicial framework regarding sustainable development are the following:

- **Remodelling the rules for corporate and public management;**
- **Improvement of the institutionalised partnership system;**
- **Regulation of access to public information;**
- **Securing a clear and strict interpretation of the legislation, especially in fiscal and commercial law, by means of the Legislative Council and ministries;**
- **Introduction of regulations and the improvement of the market mechanisms;**
- **Clearer regulation of public services;**
- Securing the conservation and protection of natural resources **(the dimensioning of the agricultural yield, the protection of forests, the quality of water resources, the prevention of climatic changes, the management of waste, the quality of air, public food catering etc.);**
- Preventing environmental deterioration;
- Promoting the investment **of domestic and foreign capital in projects carried out to ensure the environmental protection, taking into account short, medium and long-term priorities;**
- Reforming the labour law **(organisation of the labour market, payment according to efficiency, social security network, the equitable regulation of unemployment, in granting compensations and in operating mass dismissals etc.);**
- Human settlements**, land planning, rural development (urbanisation problems, the overcrowding of infrastructures, transportation, air pollution, noise etc.);**
- Reorganisation in the field of scientific and technological research, education, professional training and ecological education;
- The improvement of the legislative framework regarding the communications and information technology in order to attract large investments;
- **The elaboration of a Moral Code of the Environment** that would lead to the gradual elimination of those practices that focus only on short-term profits and would determine changes in behaviour, the primacy of ethical values, solidarity, equitability etc;
- **The introduction of the Environmental Fund in the legislative system;**

3.2 Prospects

According to section 3.6 of **Agenda 2000,** Romania will need to earmark substantially larger financial resources to protect the environment, develop the administrative capacity required to implement the necessary measures and would also have to harmonise its legislation with that of the European Union. These laws require a massive investment and considerable efforts on the part of the administrative bodies – "full compliance with the European norms could be guaranteed in the long-run".

The present strategy allows Romania to gradually eliminate most of the deficiencies and in the long run to satisfy the European requirements and standards, which implicitly means to meet the requirements for a sustainable development, including an adequate legislative framework.

The most likely scenario for Romania in the year 2020 indicates a steadfast development that will allow it to overcome the present situation and to solve its major problems. In the subsequent decades the average annual growth rate of per capita GDP needed should reach at least 6.5%; this would also satisfy E.U.'s requirements for Romania's integration.

The outline of steadfast development will also have a major impact on the evolution of the legal framework.

From a legal point of view the following fundamental elements must be considered:

? **Reforming the institutions in the field of justice and internal affairs** (alignment of the legislation with the E.U. norms, the proper working of justice, respect for fundamental rights, rule of law, constitutional reform);

? **Reforming public administration** (the status of local authorities – promoting administrative autonomy and democracy – the status of civil servants, new managerial systems, the regulation of the relations at central, regional and local levels) by adjusting the legislation to European laws;

? **Political responsibility** (responsibility towards the Parliament and the constituents);

? **Juridical accountability** (elimination of corruption, rule of law, separation of powers);

? **The essence and limits of the right to private ownership** (the regulation of the land funds and the adoption of organic laws regarding private property).

Part II: Evaluation of the Potential for Sustainable Development in Romania

CHAPTER 4

Evaluation and Conservation of Natural Resources

In order to ensure a sustainable socio-economic development it is absolutely essential to ensure a varied and balanced natural resource structure and its use within the supportive limits of its constituting elements.

4.1 The Atmosphere

The global impact of human activities on the atmosphere can lead to long-term effects on the climate, to the green house effect with its entire well known range of local and global consequences, and to the reduction of the ozone layer. To this situation with long-term consequences, which can be observed globally, one must add regional phenomena with similarly dangerous results, even though, at first sight, they do not appear very clearly to be as lasting as the climatic changes. It is obvious that the acidification of (both wet and dry) precipitates from the atmosphere, with negative effects on the soil, on the surface and subsoil water reservoirs, on the flora and fauna and the deforestation (a process seen in the past in Europe and at present in Africa, Asia and South America), introduce alterations in the carbon cycle, in the photosynthesis mechanism and in the Earth's albedo and represent additional elements capable to increase pollution and cause regional climatic changes. Finally, on a local scale, in urban and/or industrial areas, which typically have large primary energy needs, periods of intense pollution lasting a few hours or days contaminated areas of dozens of square miles. These areas of intensive human and industrial activity, spewing millions of tons of polluting agents into the atmosphere, continue to be observed at a local and global level, where the measures to protect the environment are expected to be applied with maximum efficiency.

a) Pollution of the atmosphere

In evaluating the impact caused by the human activities on the atmosphere in Romania one must take into account the failure to establish an integrated environment monitoring system capable to obtain and check the data and to create and use a data base connected to the environment-related information system. As a result, information is scarce and public awareness is low. Nevertheless, for information purposes, the data included in the Environment Protection Strategy for 1996 could be used, since the institutions with responsibilities in the area have not published further data. In the 1989-1994 period, the emissions of polluting agents into the atmosphere were as follows:

Table 4.1

Pollutant releases in the atmosphere in the 1989 – 1994 period (kg/yr ?inhab.)

Polluting agents	Year					
	1989	**1990**	**1991**	**1992**	**1993**	**1994**
SO_x	65.1	56.5	44.6	41.0	40.0	40.0
NO_x	25.0	23.0	20.0	15.0	13.0	14.0
SOVNM	36.1	33.3	29.2	27.0	27.3	28.0
NH_4	14.7	12.9	11.5	11.0	9.6	10.0

SOVNM – volatile organic substances, others than methane
Source: The Environment Protection Strategy, MAPPM, Bucharest, 1996

A decrease in the emission of polluting agents may be noticed between 1989 and 1994. This fact, as the **1992 World Bank Project** points out, is due to the economic decline and was a typical sub-regional characteristic in the evolution of air pollution in Central and Eastern Europe. It is not yet possible to give a synthetic description of the concentration of pollutants for Romania. The lack of local air-

surveying networks corresponding to areas of exploitation, of data quality control norms, and of data storage in corresponding environmental data bases are a major impediment for the correct evaluation of the impact of human activities on the atmosphere. According to current legislation, all of this should be set up and financed by the companies causing the environmental impact. As it is currently impossible to assess the impact of the release of pollutants into the atmosphere on the soil, flora and fauna, and on buildings and infrastructure, little credibility is attached to the few local action plans, and even less to the National Plan of Action for Environment Protection. The legislation in this field is still incomplete and the large number of regulations and the disparity between the protection of the atmosphere and other fields of environmental protection are seriously clashing elements, which will keep Romania far behind the standards of the E.U. for a long time to come.

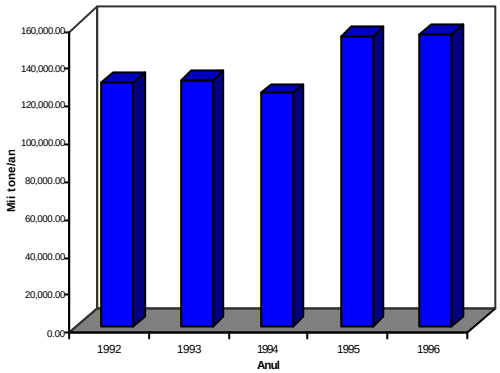
The non-involvement of local administrative bodies in solving environment-related issues in accordance with the principle of subsidiarity is perhaps the most serious error in the environment protection strategy. The central institutions, or those located at various county seats, which belong to a distribution structure, will never be as efficient as the local institutions in managing these problems, which are directly and closely linked to their area of influence. Under public pressure, the elected authorities and the administrative apparatus, which is controlled by the local councils, are the institutions that can best design, implement, and control activities related to the environment protection. By using incentives, and also by direct regulation, i.e. by forcing those responsible to pay for polluting the atmosphere, the local administrative bodies could solve such problems within the limits of the law, without the need to ban or completely terminate such polluting activities. In this way, the most adequate and durable solutions may be found with respect to the resources and the natural framework of the area.

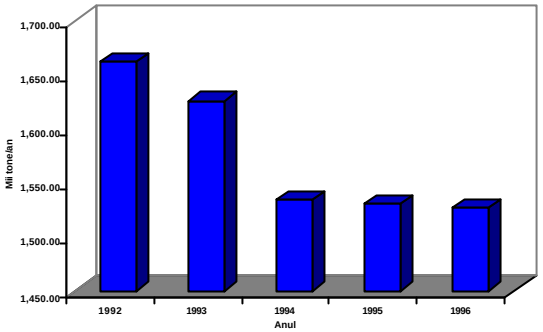
b) The evolution of emissions with green house effect between 1992 and 1996

As a signatory of the Climatic Changes Convention, Romania must apply all its provisions, and in particular those related to freezing the release of green house gases (other than those established by the Montreal Protocol) at its 1990 level. The levels must be maintained throughout this decade. Full observance of the commitments made by Romania shall represent one first step on the road to attaining the goal set by the aforementioned convention and also one step ahead for the national strategy which proclaims that *"the final aim is to maintain the atmospheric concentration of green house gases at low levels, so as to prevent any dangerous human interference with the climatic system." (CCSC, Art. 2).*

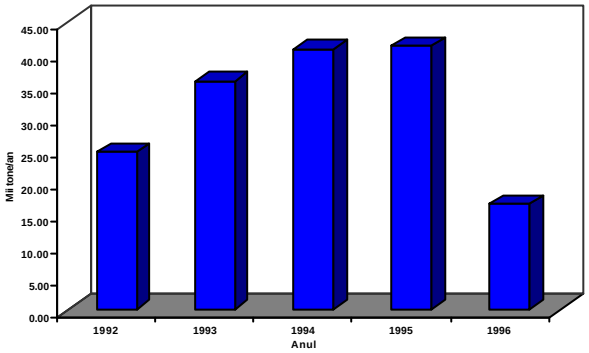
Fig. 4.1 Evolution of green house gaseous emissions

Carbon Dioxide

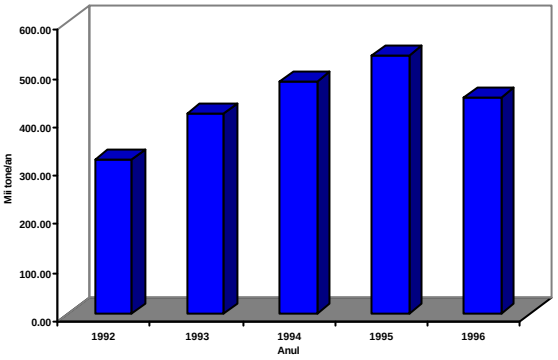




Nitrous Oxide



Carbon Monoxid



Source: National Commission for Statistics

Romania does not participate significantly in the global emission of gases, as the values of the releases expressed in carbon during the period 1989-1994 ranged between 2.33 and 1.45 tons per year/inhabitant, that is, well below the values reported by developed countries, but the effects on the health of the population living in certain areas of the country cannot be ignored. In figure 4.1 the evolution of green house gas release during the period 1992-1996, based on methods recommended by the technical body of FCCC, is presented. It will be observed that in order to achieve the aforementioned aim, Romania should have already implemented a national plan to stabilise the green house gas releases. Unfortunately, such a plan does not exist, though it could have been a positive element in the sustainable macro management of the Romanian economy, especially during the transition period.

The restructuring and reform efforts should have prepared an action plan in the field of the protection of the air quality as an integral part of a national strategy in a sustainable perspective. The analysis of the stabilisation options for the green house gas releases can be put into practice by evaluating the criteria presented below. Testing the feasibility of these criteria in the Romanian context will prove helpful in structuring the options according to priorities, and choosing those most likely to guarantee the chances of observing the commitments made by Romania with regard to the FCCC.

Criteria for evaluating options for the stabilisation of green house gas releases

? The potential impact of green house gas releases
? Cost-benefit ratio
? Direct economic impact, measured by:
    1.) Growth of labour force use in Romania
    2.) Decrease of imports
? Harmonisation of the National Strategy and the Action Plan for protecting the environment
    1.) Decrease of the amount of released air pollutants
    2.) Efficiency in reducing other types of environmental impacts
? Potential efficiency of the option implementation policies
? Sustainability of options
? Harmonisation with Romania's sustainable development strategy
? Availability of basic data necessary for the evaluation
    1.) Technological needs
    2.) Cost of implementation programs

4.2 Water resources

As a resource, water is necessary to any life form and in any socio-economic activity and its management is an important branch of the national economy. Unlike other resources, water is irreplaceable and it is permanently renewed in a natural process, the natural water cycle.

The quantity and quality of water resources is a determining factor that affects the general development of the national economy and of the territorial management process.

4.2.1 Characteristics of water resources

A relatively dense hydrographic network covers Romania and almost its entire area (97,8%) is contained in the Danube basin, with the exception of some rivers in Dobrogea, which flow directly into the Black Sea.

Romania's water resources are made up of surface (interior rivers, natural and artificial lakes, the Danube) and subterranean waters. In Table 4.2 different types of water resources are given, according to the average flow on the inner rivers and the Danube, relative to the physical and geographical situation of various hydrographic basins as well as the theoretical and practical systematisation.

The Black Sea water resources are not taken into consideration for the moment, due to technical and economical difficulties related to the desalination process.

The principal water resource in Romania consists of the interior rivers, 4864 in total, with an overall length of 78.905 km. In an average hydrological year, 40 billion cubic meters of water flow through these rivers. Out of the total average surface waters, 99,8% flow into the Danube and only 0,2% into the Black Sea.

A basic characteristic of this type of resource is the variable relation between flow volume and surface area:

? In the mountain areas, which account for half of the total flow volume, only 17% of the country's area may be found.
? The average hydrographic flow rates vary from less than 1 l/s and square km in the lower regions of the Romanian Plain, in most of Dobrogea, the Siret Plain, the south-western part of the Timis and Arad Plains, to 1,5 l/s and square km in the greatest part of the Romanian Plains including the Oltenia Plain, the hilly region of Oltenia and Muntenia, the Transylvania plateau, the Somes Plateau, the greater part of Moldavia and the grassland area in the west, to 40 l/s and square km in the high areas of the Fagaras and Retezat Mountains.

Table 4.2

Water Resources

Resource Category	Theoretical resource, Billion m^3	Technically usable, billion m^3	Technically usable resources under the present conditions, billion m^3

Interior rivers	40	25**	13
The Danube	85*	30	10
Subterranean water	9	6	3
TOTAL	134	61	26

* - represents 1/2 of the annual medium stock streamed on the Danube in the Bazias sector;
** - collects cca. 5 billion m^3 of secure resources under normal circumstances
Source: "Romanian Waters" National Company, 1999.

On the average, the Q_{min}/Q_{max} ratio is 1/200, and on certain watercourses it can become 1/1000 or even 1/2000. The Danube, the second largest river in Europe, with 2850 km of length, of which 1075 km are in our country's territory (37.7%) has an average of 170 billion cubic meters of water on entering the country. Its international character presupposes certain limits in the exploitation of its resources and, for this reason, only half of the average volume that goes through the Bazias section is considered a resource.

The subterranean water resources are in medium and deep subsoil water bearing strata. Set in relation to the country's population, it can be said that there is more supply than demand, as the average annual water consumption in Romania is 2705 cubic meters per capita as compared to the European average figure of 4000 cubic meters per capita.

In order to create a discharge regulation, 1900 large lakes were made, outfitted with all the necessary equipment for the complex use of water, collecting a volume totalling 13 billion cubic meters in 1996. At the same time, over 2000 km of canals and derivations were built to transfer large quantities from basins with water in excess to the ones with a water deficit, or to move water within the same basin.

In addition to the quantitative problems of water with which society is confronted, there is also the increasing problem of quality.

As various forms of water pollution can be found in Romania, some sources of water become unusable, so that the demand/supply ratio acquires a more complex significance.

Of the 21,726 km, the total length of the rivers tested for water quality in 1997, 12,491 km (57.5%) were of the highest quality; 6,104 km (28.1%) were second rate; 1,252 km (5.8%) were third rate, and 1,879 km (8.6%) below the acceptable limit. The worst results, far below the acceptable limit, occurred in the following hydrographic basins: Ialomita: ca. 44.8%, Prut: 21.1%, and Mures-Aranca: 7%.

Compared to 1989, an improvement in the quality of water has been registered for the interior rivers. Thus, the proportion of river sectors with high quality water (first and second) increased from 35% and 25%, respectively, in 1989, to 57.5% and 28.1%, respectively, in 1997. The proportion of low quality river water (third and below) decreased from 18% and 22%, respectively, in 1989, to 5.8% and 8.6%, respectively, as a result of decreased industrial activity, use of improved technologies, economical water management, and implementation of coercive measures against the users that carry out polluting activities.

In the subsoil water reserves, a reduction in quality can be observed, due to insufficient protection of the deep strata from the aggression of polluted and used waters, especially in large industrial areas and also to the persistent effects caused by the incorrect application of chemical fertilisers.

The areas with a high degree of pollution are situated in the following basins: Ialomita - the fan-talus of Prahova-Teleajen; Arges-the Dimbovnic Valley; Sasar-Baia Mare area; Jiu-Tg.Jiu area; Barcau - downstream Suplacu de Barcau.

A systematic decrease in the quality of the Danube's waters can be observed, due to an ever-increasing proportion of sewage along its entire course, which has important effects on the Danube flora and fauna and the Danube Delta.

The demand of water grew from 1.4 billion cubic meters in 1950, to over 20 billion in 1989, as a result of the growth in population and the industrial and agricultural development.

After 1989, demand was around 12 billion m^3, and water exploitation varied between 9,8 and 10,5 billion m^3/year.

The reasons for the decreased exploitation of the water resources are:

? Decreased industrial production, which determined a corresponding decrease in the water consumption, which is now around 70-75% of the corresponding amount used in 1989.
? Sharp and steady decrease of water used for irrigation, now around 12-22% of the corresponding amount in 1989, greatly due to difficulties experienced in ensuring the proper working of the irrigation systems and to the lack of water consumers.

4.2.2 Sustainable development and management of water resources

At the Dublin Water and Environment Convention of 1992, and at the UN Conference for the Environment and its Development, held at Rio de Janeiro in July 1992, the international community recommended to governments to adhere to the following principles for the sustainable management of water resources:

? **The basin principle**, according to which the water resources are formed and managed on hydrographic basins. The reasonable management of water resources implies a global approach, which combines social problems and economical development with the natural ecosystem protection. A sustainable management of the water resources can only be realised at the level of the entire hydrographic basin by integrating all the water users.
? **The unitary quantity-quality management principle**. These two aspects of water management being closely connected, a unitary approach appears as necessary in order to lead to best technical-economical solutions in both areas.
? **The solidarity principle.** The planning and development of water resources requires the collaboration of all participants involved in the water sector: the state, local communities, users, water managers and NGOs.
? **"The polluter pays"**-principle. All costs resulting from water and environment pollution are to be paid by the polluter.
? **The economic principle - the user pays** . Water has economic value in all its usable forms and has to be seen as an economic commodity. The management of water as an economic commodity is an important way of achieving an efficient and equitable exploitation and of conserving and protecting the water resources.

These principles lay at the foundation of the concept of integrated water management, which combines the problems of water usage with the protection of natural ecosystems.

In the sustainable management of water resources the targets to be pursued are:

a) Continuous supply of water to users, especially to the population by:

? Creating new sources of water, especially large storage basins and lakes with multiple uses in the areas with water deficits. Deep subsoil water resources will be used especially to supply villages and towns with water.
? Saving of water and reducing losses from the distribution networks in towns, economic units and housing complexes.
? Creating separate water supply systems for industry and for the population, in order to reduce the costs of making it potable.

b) The improvement of the quality of water resources by:

? Modernising production processes by using clean, non-polluting technologies.
? Creation of new water treatment facilities and updating of the existing ones in order to reduce the amount of polluting substances released into surface and subsoil waters.
? Elaboration of a normative framework necessary for the creation of hydrological and hydrogeological reservations in order to protect some sensitive basins and ground water sheets.
? Improvement of the economic system of incentives in the field, by updating prices, tariffs and penalties for the products and water management services concurrent with the introduction of heavier fines for violations of the law legislation. The implementation of a system of bonuses, granted to those users that show a constant interest in the field of water protection.
? Implementing of new methods of prevention, limitation and minimization of the effects caused by accidental pollution.
? Improvement of the education, in order to arouse the concern for a clean aquatic medium. This education process should be steady, beginning in school at a higher level and continued on the job.

c) Ecological reshaping of rivers

? Conservation and ecological restoration of proper habitats, in which biodiversity is preserved.
? Creation of a sufficient discharge along each watercourse, which should be larger than the ecological one so as to protect the aquatic ecosystems.
? Ensuring an uninterrupted discharge along watercourses in order to facilitate the migration of fish.

d) Reduction in the risk of floods by:

? Creation of reservoirs with multiple uses, equipped with flood protection systems.
? Creation of dykes, as well as keeping wet zones along water courses.
? Prohibiting the location of buildings in or around flood zones.

e) Creation of basin committees:

? Basin committees should involve all responsible or affected parties: the state, local communities, water users, and managers.

4.3 Mineral resources

4.3.1 Fe rrous and non-ferrous resources

The geological reserves of ferrous and non-ferrous resources (in state ownership) that are pay-ore using the current mining technologies are presently estimated as:

- 40 million tons of gold and silver ore;
- 90 million tons of poly-metallic ores;
- 900 million tons of copper ore;
- 4 billion tons of salt.

The Romanian subsoil also contains deposits of rare and radioactive metal ores, manganese-iron, bauxite and a large variety of ferrous substances and rocks used in industry.

The main mining consumers of ores are:

- Non-ferrous metallurgy and steel industry, chemical industry for ore products (metallic concentrates)
- Chloride and sodium industry, domestic consumption (salt)
- Paper, ceramics, glass, plastics, rubber, finishing varnish, paint, electrical engineering and food industries

Non-ferrous metal ores and gold and silver are found in small and medium size deposits and with low metallic potential.

The metal content in the mined ore is small. The metallurgic value of a reserve tone from the used deposits in Romania is $5-7 per ton, 3-4 times less than the deposits exploited internationally under profitable conditions.

The non-ferrous deposits are also of rather poor quality.

As an effect of the unpromising geological and mining characteristics of the exploited ore deposits, and due to the small metal content of the ores, as well as to the reduced reliability of the working equipment, the cost of mining products is generally well above the market prices. Thus, the state supports the ore mining activity and the production of non-ferrous concentrates and precious metals by providing subsidies.

4.3.2 Energy resources

a) Oil and gas

Romania has a land and sea surface of about 130,000 km² that allows hydrocarbons to accumulate, but geological conditions are varied, considerably influencing the exploration and exploitation activities.

Seismic and drilling operations to a depth of up to 4,000 m are advanced in all geological units, except the Oriental Carpathians area, where the tectonics is complex, the surveying technologies are insufficient and the access roads do not allow for a sustained development of geological works.

According to some results released by the American Prospecting Department, Romania has oil reserves of about 200 million tones and natural gas reserves of about 400 billion m³, found at depths of over 4,000 m and in complex geological conditions.

The actual potential is made up of the existing reserves (73.4%) and prospective reserves (26.6%). Of the total existing reserves of natural gas deposits, about 64% have pressures in excess of 20 atm, out of which the Transylvania Depression (the main national supplier) holds only 57% of the reserves.

b) Coal

In Romania, coal plays important parts as a primary energy source supply. Thus, in 1998, 20.6% of the internal primary energy production came from coal.

The geological coal reserves exploitable in the present technical-economic context are estimated at about 3,433 billion tons, of which 2,620 million tons lignite, 0,759 million tons bituminous coal, and 0,054 million tons brown coal.

The impact that the coal quality has on the main users as well as on the coal market is influenced by the following factors: the cost of energy production for the users, which is determined by the coal quality; the high degree of pollution caused by incomplete combustion. Additional problems are the elimination of gases and ensuing ashes, and large areas taken up for mining purposes, thus making them unavailable for other types of economic activities. At the same time, the technologies used in the extraction and refining of coal are below the level of those used in EU countries, partly due to the reduced reliability of the technologies applied, and partly to geologic and mining conditions that do not allow for advanced methods of exploitation. **All these specific conditions lead to high production costs and to the lack of competitiveness of this industrial branch, as compared to the EU countries.**

The problems that arise when drawing up a development strategy for the coal extracting industry are linked both to the economic and energetic limitations of the deposits under exploitation, and to the limit to which they can be used to produce thermal and electrical energy.

80% of the lignite and brown coal reserves are situated in the coal basin of Oltenia. According to geological reserve surveys, 70.6% of the deposits are currently being exploited, which can guarantee production for the next 60 years.

4.4 Land resources

a) The main problems concerning Romanian farm- and woodland

Between 1960 and 1989, there was a vast campaign favouring the increase of cultivable land, especially arable land, in order to increase the global agricultural production. To this purpose, land with great degradable potential was cultivated. As a consequence, the agricultural surface decreased by 310,000 hectares and the arable surface by 770,000 ha between 1989 and 1996. This was due to the partial removal of less productive land from agricultural use. However, other less productive areas are still being cultivated, although their soil quality is low and they have no potential for efficient agriculture. On the other hand, the abandoned land surface grew by about 43%, reaching 450,000 ha. Currently, there are 147,887,000 hectares of agricultural land (0.65 ha/capita), of which 9,338,900 ha are arable (0.41 ha/capita), and 6,690,300 ha are woodland (0.3 ha/capita). At the same time, it must be noted that approximately 80% of agricultural and arable land, as well as a significant amount of woodland, are affected by at least one damaging process or phenomenon, or by limiting and restricting factors. There is no sufficient data to realistically evaluate these processes and phenomena and the damage to the environment, to public health, and to the national economy. However, it is estimated that the agricultural production contracts by approximately 20% annually. For the restoration of the quality of agricultural soils, as well as for the ecological reconstruction of soils situated in highly eroded areas, funds amounting to $25-30 billion would be necessary, phased over 15-25 years.

b) Major strategic objectives and measures for the protection, improvement and sustainable use of land

The sustained use of land implies maintaining three of its ecological functions: (I) production of biomass; (II) filtering, poising and transforming of the matter and growth water in the soil; (III) habitat for organisms, including man. Sustainable soil management means combining technologies and activities, following policies that ensure the integration of socio-economic principles with environmental concerns, so that they can be dealt with simultaneously: bioproductivity, food security, protection of soil quality, economic reliability, and social accessibility. These five objectives constitute, in fact, the tenets of sustainable management of farm- and woodland, and its success is only possible if they act concurrently. This simultaneity can be realised if one major aim is attained -- the protection of the soil quality.

Improvement and long-term maintaining of farm- and woodland as well as prevention of erosion and degeneration are the main objectives of the strategy regarding the protection, improvement and sustainable use of soils in Romania. These goals can be achieved if the whole range of factors: natural, social, economic, and cultural are taken into consideration. In order to create and implement such a strategy at a national and local level, it is necessary to improve the legal, institutional and operational framework and to take measures in order to ensure:

? Maximal admissible limits regarding the degradation of soil;
? Promotion of decisions at governmental, departmental and local level in support of the protection, improvement and sustainable use of soil;
? Identification of the problems, causes and remedies, which should lead to a better understanding of how they are linked;
? Listing problem areas and prioritising certain steps;
? Evaluation of damages and their occurrence by means of an impact and monitoring system of analysis;
? Implementation of preventive measures according to the "cautionary principle" and corrective ones according to the "the polluter pays" principle;
? Adoption of proactive preventive strategies;
? Development and improvement in the structure and operability of education and research institutions concerned with these problems;
? Development of analytical school curricula that emphasise the importance of land and its protection, if sustainable development is to be achieved;
? Development of public awareness concerning the problems of the soil resources and their importance for the environment and for sustainable development;

? Encouragement, stimulation and support for those who wish to become involved in the management and sustainable use of the soil;
? Supporting sustainable use of farmland by special programmes aimed at small agricultural activities, which represent a major source of food for the rural population and serve as product supply for urban markets.

All these aspects must be integrated in a national programme of sustainable management and use of land, with well-established objectives and terms and be materialised in national and regional projects such as:

? Improving the national research system in the areas of soil science and agricultural chemistry, to gain detailed knowledge of the country's farm and woodland resources and of the manner in which they can be best protected, improved, and used in a sustainable manner;
? Implementation of a national geographic infrastructure to improve the knowledge and management of farm- and woodland resources;
? Updating the national monitoring system, in order to survey, assess, predict, warn and intervene operationally, with the purpose of preserving the quality of farm- and woodland;
? Updating the national database on farmland quality, reforming the national information system in this field;
? Introduction of expert systems to maximise the use of the productive capacity of certain types of soil, without permanently damaging their quality or the environment.
? Collecting knowledge of natural potentials and establishing the best ways of using land, including those from areas and regions with special soil problems (eroded, arid, halomorphic and chemically polluted soils, soils damaged by strip mining, with water in excess located in meadows or flood plains and the Danube Delta, etc). All such solutions must satisfy economic and environment protection requirements.
? Ecological rehabilitation of farmland.

4.5 Biological diversity

Having its legal basis established since 1930, when the first law to protect the natural monuments was passed, the study and the protection of the natural capital in Romania saw a steady development until the 1960s, thereafter falling into neglect and being completely abandoned in the 1980s. A few years after 1990, the conservation activity experienced a revival. The Danube Delta Biosphere Reserve was established, several international conventions regarding the conservation of the biological diversity were

The Romanian Black Sea Coastline

The Romanian Black Sea coastline, with a length of about 243 km, is currently affected by an intensive and continuous degradation caused by marine erosion. ***The shoreline is shrinking at an annual rate varying from a few meters to 15-20 meters for the coastline of the delta (between Sulina and Cap Midia) and around 0.2-0.5m for the coastline with sea cliffs (Constanta-Vama Veche).***

Erosion along the coastline is both natural and man-made. From among the human activities of great impact on the situation of the coastline one may mention the hydro-technical works on the Danube and its main tributaries, the ports, and coastal engineering works. The hydro-technical changes performed on the Danube and its main tributary have caused a fall in the inwash of sediments in the coastal area by over 50%, as compared to the values registered before the building of the dykes. Thus, a great sedimentary imbalance has been created in the coastal zone, which has in turn initiated the erosion process. The port facilities and other technical coastal engineering works such as the protection dykes for the Sulina navigation channel, the breakwater piers of the Midia, South Constanta and Mangalia ports, the coastline protection works on the tourist beaches, which also cause large environmental imbalance along the littoral.

Tendencies. Considering the global climatic changes and the general rise in the sea level, as well as the regional geo-ecological conditions that characterise the Danube - Danube Delta - Black Sea geo-system, one can estimate that the medium-term erosion process will be at least as active as in the past two decades. The long-term predictions reveal an extension of beach erosion, especially because of the continuous decrease of sand material in the coastal area, because of the permanent rise in the sea level and an ever-higher energy level of the hydro-meteorological factors.

Prevention of littoral erosion. Many countries consider the problem of losing land by erosion of their coastline to be of national importance. Beach erosion leads to territory loss, but it especially compromises the tourist industry, causing significant losses to national economies. The process of erosion also disturbs at times the ecological state of the coastal area almost irreversibly.

entered into, new environment protection projects and plans for the creation of 12 national parks -- mainly in mountainous areas – were drawn and the declaration of new protection areas was made. From 1993, though, the idea to conserve the biodiversity has again been abandoned and, as a result, no progress has been made in the field. Moreover, the objectives of the National Strategy for the Conservation of Biodiversity, elaborated in 1996, have not been achieved. Therefore, it is highly likely that due to the characteristics of the present period (confusing and contradicting legislation and overexploitation) and to the total lack of interest on the part of the institutions with responsibilities in the field, the situation of biological diversity has worsened. It is difficult to know to what extent, as there is no information in this respect.

The protection of the biodiversity has to be clearly preventive and oriented towards highly sensitive biotopes and those suffering a heavy human impact.

In the present period, the main problems connected to the biological diversity and conservation are:

a) Specific diversity

? Although, unlike the fauna – where there are blank areas with respect to the number of species living on the territory of Romania -- the number of botanical species is known, but in both categories only limited data regarding the present situation of the natural populations of the various species is available.
? The lack of information regarding the present state of most of the wildlife does not allow for the evaluation of the extent to which these species are threatened or nearly extinct and this is what makes them so difficult to protect.
? The same reasons account for the fact that the "Red Book of Romania" has so far remained unpublished.
? There is no knowledge about the number and state of the various species of cultivated plants or breeds of domestic animals found in the country.

b) Ecosystem diversity

? There is no available data about the existing types of natural ecosystems, their distribution or their weight on the Romanian territory. The programme of ecological zoning developed between 1991-1993 was concluded at the level of the secondary eco-regions and therefore there is some data about the most endangered species.

c) Conservation

? Since the 50s, when there were 23 protected plant species and 24 protected animal species, no further species have been placed under protection in our country.
? The National Network for Protected Areas, defined by Environment Protect Act No. 137 of 1995, consists of regions officially declared as protected and differing in number (according to the source consulted between 500 and 800), is not practically working and exists only on paper.
? There is no knowledge about the present state of the protected areas.
? The national Network of Protected Areas does not include all types of ecosystems that can be found in our territory, as it is predominantly located in the hilly and mountainous areas.
? The National Parks, with the exception of the Danube Delta Biosphere reserve, do not function, and have no management plans, infrastructure or personnel.

d) Legislation

? There is currently no specific legal framework dealing with the protected areas (the law for the protection of the environment merely establishes general measures for the conservation of natural habitats, stating the existence of a National Network of Protected Areas).
? There are numerous legal contradictions (Environment Act and the Forestry Code, Hunting Law and the Bern and Bonn Conventions, ratified by Romania).
? International conventions on the biodiversity conservation ratified by Romania, which, according to the Constitution, become an integral part of national law, are neither observed, nor put into practice.

The Danube and the Danube Delta

With more than 1,000 km along an in the Romanian territory, the Danube, together with its overflow meadows and delta, has always represented an important part of our natural capital. As a result of the human activity upstream and in Romania (which has 97.8% of its territory in the Danubian basin), changes have occurred in the hydrologic regime as well as in the quality of water. These have had a negative influence on the ecosystems found in the Delta and on the north-western coast of the Black Sea.

The embankment works executed in the 60s on approx. 800 km along the Romanian border in order to obtain new land, have practically led to the disappearance of the flooding areas. As it happens in large systems, the ensuing effects appeared much later and were obviated by

? eutrophication of Danube Delta waters, and partly of those in the north-west Black Sea, due to the elimination of the filtering effect caused by intensive agriculture and non-filtered streams from towns along the rivers (possible only in the presence of the flooding areas);

? changes in the specific diversity of fish and the dramatic decrease in fish populations with great economic value (especially carp), due to a lack of shallow water zones in the flooding areas, which is needed for their reproduction.

Another factor whose detrimental effects were not initially considered, has been the building of dams and water reservoirs for the electric power supplies. Their appearance has led to changes in the flood patterns and to a fall in the quantity of alluvia carried by the Danube, due to water decantation. It has also caused major distortions in the Romanian coastal ecosystems. Another effect caused by dams was the disruption of migration paths for the reproduction of valuable sturgeon species.

The Danube Delta is the largest humid zone in Europe. The diversified structure of the natural ecosystems, most of which were unaffected by human activity, have made the Danube Delta, together with the Razelm-Sinoe lagoon complex, a Biosphere Reserve. It has also been included on the list of International Natural and Cultural Heritage, and in the Ramsar Convention. As a direct effect of the flooding areas disappearance, the Danube Delta's capacity to retain nutrients has increased sharply since the 80s. It is currently affected by eutrofication, which has led to the reduction or loss of low water macrophitae, to changes in the range of periphitic and epiphytic algae, and to the spreading of rival species favoured by the nutrients in excess (for example, the blue-green algae).

Apart from the losses caused by eutrofication, the Delta's biodiversity was and still is affected by the changes in or destruction of the habitats, by changes in the hydrological patterns. The latter are due to the creation of man-made channels or meander interruption, by transforming large areas into agricultural or fishing zones, or by the change in water quality (transformation of the Razelm lagoon into a fresh water lake).

4.6 Forests and Forestry

In 1998, the forest fund of Romania included 6.37 million hectares (i.e. 26.7% of the whole area) of which 6,23 million hectares are covered by forests. Most of the forests are state owned, with only 336,000 hectares in private ownership. The process of retrocession to the former owners is under way in the case of other forested areas.

The estimated volume of timber is 1.37 billion m^3, with an average of current growth of 5.6 m^3 and an average volume per hectare of 215 m^3. From this point of view Romania takes a leading place in Europe but, as a result of unsustainable forestry policy, it suffered a gradual setback and was surpassed by many European countries that secured better conditions for a sustainable development of their forests.

Other indices of the forestry resources are shown in Table 4.3 and several conclusions may be drawn:

? There is a relatively low economic potential of the forests, with the normal volume of timber being of about 16 million m^3 in 1998, as compared to 21 million m^3 four decades ago;

? Reduced accessibility to the forestry fund, the density of forest roads being of 6.2 m/ha;

? Forests pay an important ecological role of protecting the environment; that is why approximately 50% of Romania's forests can be included in this category (protecting water resources, soil, climate and the ecological and genetic funds).

Owing to the great capacity to metabolise carbon dioxide and to store it into the biomass and black mould humus, the forests of Romania are a redoubtable anti-enthropic barrier, creating favourable effects well beyond the national frontiers. For example, in Romania the ratio between the CO_2 emissions and the adsorption of the gas by forests is much lower than that registered in other European countries like Germany, Great Britain, Switzerland, etc.

A rich and varied hunting fauna comes to crown the forestry heritage of Romania (stag – 30,000; roebuck – 150,000; bear – 5,500; wolf – 3,000 heads).

Despite the fact that the forests take only 26.7% of the area, this figure is very close to the international standard, 25%.

Table 4.3

Indices of forestry resources in Romania

No.	Indices	Quantities
1.	The forestry fund surface	6.37 mil. ha
	- forests	6.25 mil. ha
	Out of which	
	- leafy forests	70 %
	- resinous forests	30 %
	Special protection functions forests	Over 50 %
2.	Wood fund/feet	over 1,300 mil. m^3
	- per hectare	215 m^3
3.	Current growth	5.6 m^3 $year^{-1}$
4.	Forests possibilities	16.7 mil. m^3 $year^{-1}$
5.	The forestry road network density	6.2 m ha^{-1}
6.	Specific biodiversity	Over 12,000 species

Source: Statistical data of the Ministry of Waters, Forests and Environmental Protection, with additional information, 1999.

a) Characteristics of the present state of Romanian forests and forestry

? Reduction of forestry surfaces below the critical limit: from 80-85% (the natural proportion of woodlands), to 26.7%, currently, with great regional variation:
  * Only 7% in the plains, precisely where the climate turns arid, excessively droughty periods become frequent and long and where the adverse effects caused by global climatic changes are dramatically felt.
  * Only 28% in the hilly regions, where soil erosion and landslides have become frequent
  * 65% in the mountains, where originate the raging flash floods.

  Even though less rapid, the shrinkage of forest surface continues, while the situation in other European countries is totally different.

? Drastic decrease in the biodiversity of the forests, especially the number of eco-system types. There is the danger that forests - the greatest source of biodiversity in the country, with over 12,000 species - will be greatly impoverished in terms of their biodiversity, with severe ecological, economic, cultural and social consequences. Dozens of ecosystem types have already disappeared, some even before being scientifically known. A typical example is the almost complete substitution of natural forests growing in the flood meadows along the course of the Danube with brush, stand and artificial and unstable Euro-American poplar clones. Complete forest felling or cutting contributed considerably to the narrowing of biodiversity and to the destabilising of the Romanian forests. It must be observed, however, that unlike other countries, there are still large natural pristine and quasi-pristine forest areas in Romania with an exceptional biodiversity and stability, which are inaccessible (for example, the beech forests in Banat and northern Oltenia).

? Exhaustion of usable forestry resources as a consequence of extensive exploitation because in many forestry basins, 3-10 times the productive capacity of the forests was cut, depending on the existence of access roads. Consequently, in 4 decades, the normal volume of wood crops decreased by circa 40%; during the transition period the official over-exploitation decreased, but illegal woodcutting rose sharply.

? Declining health of the forests during the past ten years, due to drought, pollution, pasturing, hydro-technical works and other reasons. At present, four out of ten trees are diseased, and almost two are seriously ill. The health state of the oak, acacia, spruce fir and fir forests is also precarious. The most endangered are the forests in the plains and hilly areas, especially those in the southern and south-eastern part of the country, where the aridity process is heading towards desert effects.

? Ecological imbalance of forest ecosystems, caused by their composition and vertical structures being levelled out: approximately 50% of the country's forests are in this state. Consequently, mass forest drying is continuous, as well as felling and breaking caused by heavy winds and snow (in the past 5 years these calamities affected over 10 million m^3 of wood). The reduction of forested areas and their ecological imbalances explains the increased occurrence of floods, landslides and excessive drought. It is a proven fact that in Romania the consequences of natural calamities and global climatic changes demonstrated a growing tendency, thus emphasising the need for **forestry in a risky context**.

Additional examples may be found, but they all show a disturbing tendency in the state of the forests from a structural point of view, as well as in terms of health and natural vegetation potential.

Unfortunately, we can also observe a **decline in the field of forestry**, visible in the decrease of the volume of forestry works: regeneration, care, protection, ecological rebuilding of stands and access to the forest fund, due to lack of financial resources.

Activities of restocking the degraded lands and of planting protective forest belts were practically abandoned, while: a) water erosion expands to over 7 million ha (out of which 2 million hectares are seriously affected by erosion) and wind erosion affects 0.4 million ha; b) excessive dry periods are frequent on 7 million ha; c) landslides affect 7 million ha; d) there are 2,150 hydrographic basins showing a tendency towards extremely heavy rains. These man-made processes tend to accelerate.

In addition to all the listed factors, there is a delay in implementing the real reform and the institutional restructuring of the forestry industry, as well as in the adoption of a forestry legislation harmonised with European law. Financial problems, poverty of the rural population and the lack of forest awareness are further causes that obstruct the sustainable management of forests. There is no strong political lobbying for the protection and sustainable development of forests, as politicians demonstrate a keen interest only in forestry exploitation and in reinstalling property rights, but very little in their sustainable management. The Parliament and the political parties do not do anything to increase public awareness concerning the fundamental importance of forests in (I) protecting the ecological balance of the country (II) the sustainable development of the national economy and culture.

b) Strategic actions leading to sustainable management of forests in Romania

? ***Ensuring the integrity of the country's forests***, by respecting the situation resulting after the changes in the law on ownership and with full observance of the said law. To achieve this, it is necessary to introduce new legislation banning the reduction of forest area under any circumstances, with certain exceptions, of course, and with the approval from superior echelons. Special attention must be paid to the conservation of the forest vegetation that is located outside the forestry fund and also to the currently endangered forests called "forested pasturelands," whose area is in excess of 400,000 hectares.

? ***Restocking of the forestry fund*** to the optimum level of 35% of the country's territory (with regional differences: 10% in the plains, 25% in the hilly regions, 65% in the mountainous area), phased as follows:

Levels	1999	2010	2020	Long term
Forested Areas (% of country area)	26.7	28	31	35

The means by which this objective can be attained are the following:

* Afforestation of degraded and abandoned agricultural lands (65,000 ha until 2010 and 300,000 ha until 2020);
* Creation of protective forest belts and anti-erosion shelter belts (2,000 km until 2010 and 10,000 km until 2020);
* Creation of green belts around cities and towns, as well as watercourse regulation in the case of streams (2,500 km of stream network until 2020).

? ***Ecological rebuilding of forests structurally damaged*** by natural and human-related factors; this will include forest re-naturalisation of some areas in the along the course of the Danube and of some interior rivers. This will be extended gradually to almost 20,000 hectares annually during the period 2000-2010 and to 30,000 hectares annually during the period 2010-2020.

? ***Limitation of the volume of annual wood exploitation to the forests capacity level*** (16-16.2 million m^3/year. In the period 2000-2010 and 16.5-17.5 million m^3/year in the period 2010-2020). The mechanical and chemical wood processing industry will be adapted to meet these parameters, and so with wood exportation. The export of unprocessed wood and of only slightly processed wood products is damaging for the national economy.

? In order to put to better use the resources offered by forests, it is necessary to build roads in order to facilitate access to the 2 million hectares of mountain forests which are presently inaccessible, with the following dynamic phasing:

Levels (years)	1995	2000	2010	2020
Roads(m/hectares)	6.2	6.3	7.5	12.0

The necessary funds for this process (around 50,000$/km) will be generated by many sources: self-financing, national budget, international financial support.

? Improving the logistics level in order to mechanise the forestry activity and the wood exploitation works and to implement the information technology. Thus, the mechanisation will have to cover 40% of the forestry activity in 2005 and 60% in 2020.
? Conservation of biodiversity, stability, health and the forests' multifunctional role by means of:
    * Protecting approximately 400,000 hectares of natural pristine and quasi-pristine forests in the Romanian Carpathians by special means, because they are national and European treasures. For the scientific research of these forests, the creation of an international institute for pristine forests is proposed;
    * Creation of natural reserves and national parks on at least 10% of forested land until 2005, with the proper representation of all types of forestry ecosystems found in the country;
    * Conservation of particularly vulnerable forest ecosystems, such as the steppe forests, those found at high elevations, or located on karsts or elsewhere;
    * Application of intensive treatment, such as selection- or quasi-selection-forest and other solutions for long-term regeneration, which might ensure the creation of mixed bushes and stands with a mosaic structure (according to the new European model). Clear cuttings have to be drastically reduced;
    * Revision of concepts and attitudes in forest cultivation, with growing emphasis on conservation and restoration of biodiversity;
    * Changing conceptions regarding 'hygienic cuttings' towards maintaining in the stands a certain proportions of dead, defective and old trees, which are valuable for the conservation of biodiversity.
    * Conservation of a diversity of silvicultural stations, including micro-stations, as an essential condition for the conservation of the biologic diversity;
    * Promotion of local, indigenous species, prioritising those slow-growing species when young, but with a sustained growth when old. This allows them to produce optimal biodiversity in forests that are both lasting and multifunctional. Compared to the present make-up (31% resin trees, 30% beech, 18% oak, and 21% other species, in 1999), by 2020, the following formula will have to be applied: 28% resin trees, 34% beech, 22% oak, 16% other species. Special emphasis will be placed on highly valuable species such as ash, sycamore, and cherry tree.
    * Creation of cultures with rapid growing species outside the forestry fund with the aim of reducing economic pressures on natural forests (100,000 hectares in 2010 and 150,000 hectares in 2020).
    * Allowing trees to reach the proper age before felling them, and adopting relatively large cycles with the aim of increasing the durability and economic efficiency.
    * Combating damaging insects by using primarily biological means;
    * Adopting ecological wood exploitation techniques and reconsideration of this activity so as it should be appreciated as an important component of silviculture;
    * Sustainable management of fauna and game species.
? Certifying the forests and forest products based on internationally recognised principles.

Natural conditions in Romania are adequate for ***higher quality forestry***, which is highly profitable now and in the future.

Essentially, it is proposed to adopt the modern European concept of 'close to nature' forestry, a concept promoted by the E.U.'s PRO SILVA (1997).

Thus, in order to promote sustainable forestry, fundamental changes, conception changes, will be necessary on the path towards sustainable management of forests.

To the same purpose, the adoption of criteria and indicators for monitoring sustainable management of forests is highly recommended, in order to observe the proposals advanced by international conventions and adopted by Romania, but as yet not applied.

At the same time, Romanian silviculture has to implement emergency measures to implement the awarding of a special certificate for ecologically grown wood, in accordance with the international criteria and conventions; this type of certificate acts as an excellent instrument to exercise the economic control for sustainable management of forests.

A different and very complex issue is the sustainable management of the forests that were or will be the object of retrocession, be the individuals or companies. Without an adequate legislation, specific institutional directives, and proper financial support from the state, this unavoidable process will cause dramatic consequences for the ecological balance of the country. In the case of many forests with important ecological functions, the possibility of granting financial or territorial compensations in exchange for leaving them under state control, must be seriously examined. Another solution is the management of private forests on a contract basis, undertaken by the local silvicultural stations or by private ones, but under strict state control.

The legal framework regarding forestry is necessary but currently inefficient. Besides, the law has to include all those terms and conditions which ensure the respect of the forest regime, conditions such as the creation of adequate institutional structures, granting of state subsidies for forest owners forced by law to undertake unprofitable activities or to give up profitable ones.

Total privatisation of the activities linked to silviculture will be instrumental in the success of sustainable forest management, as will the taking over of responsibilities of exploiting the forestry fund by the silviculture. Private economic agents, service providers or administrators must be engaged in such activities. Privatisation is to include other fields of activity as well: construction of roads, production of seedlings, correction and channelling of streams, control of damaging insects, etc.

The development and sustainable management of forests requires substantial subsidies from the state for the many economically non-profitable forestry activities, which are nevertheless extremely important for the ecological balance, especially in the case of privately owned forests.

The implementation of the programme for sustainable management of forests in Romania will also depend on foreign funding. We consider the following points beneficial and of great interest for the international community: restructuring of degraded lands, conservation of biodiversity, including protection of pristine forests, securing access to the silvicultural fund, restoration of the course of the Danube in the spirit of nature, creation of a national network of protective forest belts.

CHAPTER 5

Evaluation and the Development of Anthropic Capital

5.1 Agriculture and Food Supply Security

The main objective of the development and modernisation of Romania's agriculture should be the creation of efficient and modern systems and structures, capable of ensuring the following:

? Food and non-food products for domestic consumption and export, meeting the demand for higher quality products;
? Protection of the natural resources soil, air, water, and biodiversity all of which are limited and will become a strategic global problem because of the globalisation of agriculture;
? Preserving the quality of agricultural land. This can be achieved by eliminating the imbalances caused by the natural use of land and by acting to diminish and eliminate the adverse effects caused by industrialisation and urbanisation.

a) Technical-economic resources and deficiencies of agriculture

Romania has 23.8 million ha of land, of which 14,8 million ha are used for agriculture: 9.3 million ha of arable land, 3.4 million ha of grassland, 1.5 million ha of hey fields and 0.3 million ha of orchards. The deficiencies of the Land Fund Law No. 18/1991, and especially the misapplication of this law, led to the over fragmentation of agricultural land (over 40 million lots owned by 4.5 million agricultural enterprises, each family owning, on the average, 2.25 hectares).

In 1997, 10,155,000 people lived in rural areas (45.1% of the total population), of which 3,322,000 worked in the agricultural sector. The population employed in the agricultural sector is relatively old (32.2% between 50 and 64 years of age, 23.5% are over 64 and only 26.6% between 15 and 34). Approximately 93.6% of the active population graduated from elementary school, 56% of which hold a high school diploma; 6.4% are unschooled and 50,000 hold professional degrees. Only 4% of the new landowners have appropriate machinery to work the land, 36.3% use cattle to work the land and the rest use manual labour. Agriculture employs a wide range of methods, from the most primitive ones to the most modern methods. However, the use of the most recent techniques is not widespread, but has begun to spread.

There are 164,756 tractors in the country, and 124,286 are owned by the private sector. These tractors and the rest of the agricultural machinery are not sufficient to guarantee that the needed works can be done at the appropriate time, the more so as they are to a great extent obsolescent and unreliable.

The amount of chemical fertilisers and pesticides used in agriculture has been decreasing in recent years. In 1990, 1,113,000 tons of chemical fertilisers were used in agriculture and beginning with 1991, the amounts suffered a dramatic decline and in 1998 only 383,000 tons of chemical fertilisers were used and organic fertilisers are utilised in very small quantities. The result is a decreased production that is actually obtained at the expense of the nutrients from the natural soil reserve, with a further series of adverse effects on the quantity and quality of the crops on the one hand and on the soil and environment quality on the other.

Cereals, mainly maize and wheat, take up 70% of the agricultural crops, with industrial and technical plants like sunflower, potato, and sugar beet taking up 15% of the agricultural crops. Overall, the structures and rotation of cultures do not meet the criteria of food supply security, the needs of the food industry, the market demands, or the requirements for the development of a sustainable agricultural sector.

Zootechnics makes up 46% of the total value of the agricultural production. After 1990, the number of animals of all species has decreased constantly and sharply. As a result, there are only 3.835 million heads of cattle, 7.097 million pigs, 9.547 million heads of sheep and goats, and 66.620 million chickens.

Scientific research and technological development is carried out, despite particular financial difficulties at times insurmountable, by 2,000 researchers. Their research offers a scientific basis for agricultural production, but under the current conditions, is applied by a limited number of agricultural enterprises.

Investment in the agricultural sector represented 16% of total investment in the national economy, more precisely 7,243.5 billion lei. Of this amount 122.3 billion were invested in construction, 5.795 in equipment, and 29.2 billion were spent on imported equipment.

In 1998, agricultural production had a net added value, adjusted for inflation, of **52,764.2 billion lei**, and it constituted **15,6% of the GDP**. The value of exported agricultural products was **$381 million**, of which **$266 million** was the value of exported foodstuffs and livestock.

The deficiencies of the agricultural system, which have led to a decrease in output, are mainly caused by the following factors:

? Lack of a viable agricultural exploitation due to the various types of ownership, and deficient management and use of the agricultural resources; these should sized and organised so as to be able to utilise ecologically and economically efficient techniques and technologies.
? The lack of systems and structures of agricultural production capable to ensure the cultivation of crops commensurate with the existing ecological and technological conditions and possibilities;
? Lack of a functioning market for industrial inputs;
? Increasing gap between the prices of industrial and agricultural products;
? Lack of capital funds in most agricultural enterprises;
? Inefficient system of financial support for producers;
? Farmers have to deal with suppliers and distributors that have established monopolies;
? Insufficient development and consulting services for farmers;
? Lack of adequate protective policies in favour of the farmers and agricultural enterprises with regard to the production and sale of domestic products on the domestic and foreign markets.

b) Policies and measures for the sustainable development of agriculture in Romania

In Romania, **agriculture** is the most important branch of the economy. Given the fact that Romania has the appropriate natural and socio-economic conditions for the development of agriculture, this branch of the economy is considered a national strategic priority.

Some points in support of this strategic priority:

? Having in view the large agricultural areas and the soil quality, Romania's potential for agricultural production is among the highest in Europe;
? A high percentage of the population working in agriculture and living in the rural areas;
? Significant contribution of agriculture to the GDP;
? The beautiful scenery of the rural areas will help develop tourism as an important economic sector.

Measures to be taken in order to further develop Romania's agriculture:

? Creation of viable systems and structures for the organisation, production and management of agricultural crops. These systems should be appropriate for the application of technology and techniques that correspond to specific ecological conditions and different forms of property.
? Structural adjustment of agricultural production, appropriate for the potential of financial and agricultural resources, could be achieved by creating structures that are appropriate for the different branches and sub-branches of agriculture.
? The domestic production of agricultural machinery should be strongly encouraged in order to supply the agricultural sector with the necessary equipment;
? Creation and implementation of economic and financial mechanism and systems, corresponding to domestic and foreign competitive requirements which are also compatible to PAC of the E.U.;
? Equitable adjustment of the ratio between the prices of the agricultural and industrial products;
? Adequate policies in order to stimulate, support and protect the agricultural producers;
? Elimination of the monopoly held by firms that supply farmers or distribute agricultural products;
? Incentive measures for the diversification of crops and increased added value of the agricultural production;
? Introduction of professional certification for farmers and persons doing agricultural-related jobs;
? Improved access to agricultural-related information, application of the results obtained by the agricultural research and introduction of a better development system as well as adequate consulting in the field;
? Promoting the reorganisation and efficient operation of research centres in the agricultural and food industries;
? Reconsidering the amount of budget funds allocated for research in agriculture, according to the role and importance of agriculture in the general context of the national economy and the development of a well-organised system for the material endowment of the research centres in the field of agriculture and food industry;
? Restructuring and reorganisation of agricultural training at all levels, to meet the present requirements of sustainable development.

The application of these measures requires legislative changes, as well as the creation and implementation of certain studies and projects.

When drawing up the stages for the sustainable development of Romania's agricultural sector, the following primary objectives must be taken into consideration and should be reflected in policies, strategy programmes, and action plans at local and national level:

? On short term, small farms (currently producing at the subsistence level) should be stimulated by fiscal and other policies so that they may start producing for the domestic and foreign markets;
? On medium term, making small and family farms profitable and capable of producing for the domestic and foreign market on a large scale;
? On long term, a growing preponderance of small family farms and managerial farms using modern techniques and whose products can compete successfully on the foreign markets and contribute significantly to GDP;

In the process of implementing these stages, it is important to restructure the way in which arable land is being used, protecting the land that is appropriate for agriculture.

In order to achieve sustainable development in agriculture, the privatisation, the various stages of this process, as well as the importance that the private property will finally have, must all be taken into account.

The following policies concerning agricultural land, which should meet the requirements of sustainable development, should be drawn up and applied by the year 2020:

? Ensuring modern farming techniques for 3 million hectares of arable land;
? Ensuring the farming of 2.5 million hectares using medium level technology.
? Ensuring the farming of approximately 1.2 million hectares using low levels of technology;
? Reduction of arable land affected by harmful phenomena such as erosion and landslides by transforming them into grassland and brush; these areas, as well as 450,000 ha of abandoned land will be afforested or otherwise planted and used efficiently and ecologically.

In order to make sure that farming does not harm the environment, a set of agricultural-environmental indicators must be introduced, so as to identify the types of crops and technologies that may endanger the environment and, at the same time, to determine whether those risks are socially and environmentally acceptable.

Under the current circumstances, the development of the agricultural sector, of rural areas, and of green tourism should become the object of investment programmes; these will guarantee rapid profits for millions of enterprisers and investors.

5.2 Energy

a) Policies in the electric and thermal energy sector in the context of the present economic changes

After the oil crises, Western countries' policies regarding the electric energy were focused on:

? Ensuring the necessary power supply for economic growth;
? Ensuring the dependability of the energy supply;
? Alleviating the impact on the environment at local and regional level.

The problems related to transboundary pollution (acid rain caused mainly by SO_2 and NO_x emissions) have determined the implementation of policies that require efficiency in the use of power. During the past 20 years, new technologies for the generation of power have been created. These novel developments have made the following things possible:

? Decentralisation of electric power production and the use of CCTG, which reduced the investment costs for small power-generating units;
? Reduction of the impact on the environment;
? Structures that help obtain the needed sources of power necessary for the sustainable development of the economy.

Romania's integration in the European Union will require the compliance with the following treaties: The European Energy Charter and the Energy Efficiency Protocol, both of which established the conditions for co-operation in the field of power generation and contain the following important provisions:

? Setting of energy prices based on the market prices;
? Reflection of cost and benefit for the environment throughout the energy cycle;
? Promoting the efficient use of power, the use of clean fuels and renewable power resources;

The signatories of the Energy Efficiency Protocol, including Romania, are obliged to develop and implement strategies that will increase the efficient use of power. This includes the efficient use of resources of power, production of power, transportation, distribution, and use.

Therefore, if Romania wants to enter the European Union, it must:

? Have a power industry that meets international standards;
? Respect the environmental protection norms set by the legislation for E.U. integration;
? Allocate financial resources and stimulate investments in a way that will reduce the impact on the environment;
? Increase power efficiency.

b) Production of Electric and Thermal Power

THE PRESENT STATE OF AFFAIRS:

? The existing capacity (see Table 5.1), the production of resources, and the level of usage of the existing capacities in power stations, in 1998. The independent producers currently have the capacity to produce an extra 850 MW of power. Demand for electric power fell to 6,074 MW in 1998.

Table 5.1

Installed capacity and average power

produced in CONEL power stations , 1998

	Installed capacity		Average electric power produced		Level of use
	MW	%	MW	%	%
TOTAL	17,657	100	5,975	100	33.8
Thermal power station with coal	6,794	38.5	1,832	30.7	27.0
Thermoelectric power stations hydrocarbons	4,221	23.9	1,297	21.7	30.7
Hydroelectric power stations	5,942	33.7	2,146	35.9	36.1
The nuclear electric power stations	700	3.96	700	11.7	100

Source: CONEL

? Main Achievements of Power Plants under CONEL Jurisdiction:
According to CONEL reports, the average total cost of production in 1998 was approximately 190,000 lei/MWh, when supplied.
The efficiency output of thermoelectric power stations is 33%, lower than the current international output for coal power stations (for example, approximately 38% in Great Britain). The use of obsolescent installations, low-quality fuels and the necessary activities of maintenance, as well as the sharp drop in demand for electric and thermal power, determine the low level of performance of the power stations administered by CONEL.

Table 5.2

The production of primary power resources of Romania, 1998

Thousand tones c.c. (coal equivalent 7000 kcal/kg.)

Net coal	7,229.8
Oil	8,719.8
Usable natural gases	16,184.5
Hydroelectric and nuclear electric power	2,974.7

Source: Statistic Bulletin No. 1/1999

In 1995, the level of polluting emissions generated by the activities of the power sector was of 51,536 tons, i.e., over 95% of which being CO_2 and about 2% being SO_2 (Source: Black Sea Energy Centre, Energy Review of Romania, 1999). For the year 2010 it is estimated that pollution will be as low as 34,000 tons if the first reactor block and, depending on financial resources and the CONEL's investment plan, the second reactor block at NPP Cernavoda, will be operational.

NUCLEAR POWER

Currently, Romania produces electric power with the help of nuclear power at reactor No. 1 located in Cernavoda, with a degree of charge at 85%.

The future of the energy industry may be characterised by **the need to save power**. Still, it has been estimated that in the next 20-25 years, power consumption will increase steadily at a rate of 2.5%-3% per year. Nuclear power will not replace coal or fuel. However, as an alternative source of energy, nuclear power is an important choice that will reduce the environmental damage that is done by coal and hydroelectric power plants.

PERSPECTIVES

? The need for a **governmental nuclear strategy** as well the adoption of a **law for nuclear energy** designed **to secure an in-depth protection of the nuclear sector**.
? Enterprises in the field of nuclear power could be grouped in the following way:
    * **1st Division**: Key enterprises that have to conserve the technical know-how, the facilities and to maintain the minimum level of production and specialised staff;
    * **2nd Division**: Economically vital enterprises whose patterns of production are in step with the international trends or the demands of the domestic market.
    * **3rd Division**: Important enterprises for the economy that are partly financed by the government only to the extent that they have the potential to become profitable.
    * **4th Division**: The remaining enterprises in the nuclear power sector that are no longer profitable (the costs to render them efficient or upgraded exceed benefits).
? The need to finance the restructuring of this sector can be met by **creating a fund for the protection and development of the nuclear industry.**

c) Transportation and Distribution of Electric and Thermal Power

CURRENT STATE OF AFFAIRS:

The capacity of the transportation and distribution network far exceeds the amount of energy that is distributed, but due to deficient exploitation and lack of automation lead to considerable network loss of energy. According to CONEL, losses registered in the distribution network amounted to about 11% in 1997. In the medium- and low-tension supply networks, losses are even higher and substantial modernisation is urgently needed.

The thermal power transportation and distribution network, whose total length exceeds 16,000 km, is administered by CONEL, as well as by municipalities and consumers (commercial companies or state-owned companies). The problems are caused by important resources that are wasted in the process of producing thermal power and electricity, as the consumption is almost two times as much as in other countries. This is caused by the low level of efficiency of heat converters, by the low output of the pumping system, by the lack of recording instruments and systems and by the inadequate insulation of these networks (this alone is responsible for 5%-10% of the losses).

The technology in the power plants administered by CONEL is, generally speaking, at the level of the 1970s. Thus, 47% of the equipment has been in use for over 21 years. According to law 15/1994, regarding the amortisation of used capital, the normal time span for the use of this equipment has already been exceeded. About 37% of the installations have been in use for 11-20 years. The equipment that has been in use for less than 10 years makes up less than 16% of the existing industrial capacities.

TRENDS

? Increase in the performance of machinery at their nominal and design values.
? Promotion of clean technologies.
? Dismantling of obsolete and unproductive units.

MEASURES TO REDUCE THE IMPACT ON THE ENVIRONMENT

? For the protection of air quality:
    ? Reduction of SO_2 and NO_x emissions by using fuels with low levels of sulphur and by controlling the combustion process;
    ? Reduction of particle emissions by improving the retention rate of the electrostatic filters;
    ? Equipping electric power plants with monitoring and filtration equipment and machinery for the removal of sulphur compounds.
? For the protection of water:
    ? Updating the technology of the installations for the treatment and purification of used water.
? For the protection of the soil:
    ? Avoiding infiltration of polluting agents into the soil and subsoil;
    ? Reducing the areas occupied by waste dumps and cultivation of various plants;
    ? In case the electricity system is modernised, a more compact landscape-friendly network should be introduced.

? When analysing the solutions for the electric and thermal power industry, the potential impact of these solutions on the environment should be taken into consideration.
? Promoting and stimulating the generation of power from renewable resources.
? Having in view the possibility of obtaining electric and thermal power through the burning of waste materials, an analysis must be made of the effects on the reduction of pollution, in concurrence with municipal management policies.

d) Energy usage

CURRENT STATE OF AFFAIRS

Regarding the **production of primary power resources**, Romania depends on import for over 36% of them. As compared to other E.U. countries, for example Austria, Belgium, etc., that have to import over 50% of their primary power resources, Romania has a lower dependency rate. At present, the import of power resources constitutes a financial burden of $2.2 billion US for Romania.

Since in 1998 Romania was highly dependent on imports of methane gas, oil and oil products (that represent over 80% of total imports) Romania needs to diversify its suppliers, especially those that supply methane gas. Presently, Romania depends on a single supplier of methane gas, namely the Russian Federation. Economically and strategically it is not advisable for this situation to continue.

The industrial sector still occupies a significant percentage of the total consumption, namely 60%. In 1989, the population's consumption of power represented only 8% of total consumption; this has now increased to some extent. Recently, industrial consumption of electricity has been decreasing continuously as a result of economic recession and the implementation of restructuring programmes.

Table 5.3

The structure of electric power consumption in Romania, 1998

Billion kwh

Total resources	53,666.5
Total consumption:	46,213.7
Economy	37,957.8
Public lighting	397.7
Population	7858.2

Source: Statistical Bulletin No. 1/1999

The present situation of power consumption displays the following aspects:

? **The industrial sector is the largest energy consumer (over 60% of total consumption)**
? Romania' economy depends on import for 36% of power resources.

e) Guidelines for action leading to sustainable development in the electric and thermal power industry:

? Promoting the use of efficient technologies in the production of power that will have less negative effects on the environment;
? Increasing power efficiency;
? Improving regulations and standards;
? Adequate fiscal policy;
? Promoting research and development;
? Introducing and stimulating competition on the domestic markets for the supply of electric and thermal power.

Promoting the use of efficient technologies in the production of power that will have a reduced negative effect on the environment:

? Improving the traditional technologies at the existing power plants:
  ? Improving the performances of basic components (containers, turbines, pipes) which should lead to a decrease in the loss of power;
  ? Increasing the performance of the thermodynamic cycle (increasing the initial temperature and pressure, introducing repeated intermediary overheating, increasing the degree of renewable pre-heating, decreasing condensation pressure)
  ? Reduction of toxic gas emissions into the atmosphere.
? Introducing and developing installations based on cycles that combine gas and steam (CCGS).
? Increasing efficiency through the combined production of several types of energy. This can be accomplished by using extensively a system of co-generation to produce both electric power and heat simultaneously.

Increasing efficient user consumption of power:

? Promoting of technologies that use electric power wherever it is beneficial (heating and drying technologies, regulating systems for the operation of direct electric drive, etc);
? Using heat pumps (which means using secondary power resources)
? Increased automation and monitoring of processes.

Promoting regulations and standards that can ensure the removal of inefficient equipment and technologies from the market. This refers mainly to:

? Standardising home appliances;
? Standardising certain processes that use power;
? Standards of power efficiency for buildings.

5.3 Industry

5.3.1 Importance of Industry in the Process of Socio-economic Development

Comparative analyses of global economic competitiveness highlight the fact that all the developed countries with high standards of living and human development have a highly developed and competitive industrial sector. At the same time, these countries are the initiators of scientific and technical innovations that lead to progress in all economic and social fields. This may explain both the sustainable industrial development of those countries that do not have their own primary resources for industrial production (Japan, South Korea, Switzerland, etc.) and the present tendency seen in certain developing countries that possess natural resources and choose to process them, thus developing their national industries.

In the context of globalisation of the economy, ensuring industrial competitiveness represents a primary objective of the strategy for sustainable development of the E.U. countries, other developed countries, and the developing countries. Consequently, between 1981-1997, the total global industrial production and total global processing industry increased by 40% and 44%, respectively, both of them exceeding the increase in GDP. Developing countries achieved the most significant increase (82%). The same trends are expected to continue for the next 10-15 years.

The special interest shown for industrial competitiveness, which influences directly the chances of economic growth, derives from the significant impact that the industry has on GDP, budgetary revenues, the development of trade, employment (in production and services related to production) and an overall increase of the qualification level.

The development of the processing industry contributes to the capitalisation of natural resources, to the modernisation of the infrastructure of other sectors of the economy, to the stimulation of scientific research and to an increase in the purchasing power of the consumers.

In the case of Romania, the import above a certain limit of materials and technology required for the modernisation of economic sectors and their infrastructures is only possible if enough foreign currency is available. The current foreign financial and trade deficit, as well as the estimates for the next 10-15 years, leads to the conclusion that currency resources are insufficient, which means that European integration will be postponed even longer.

Under these circumstances, in order to achieve an economic growth of at least 6-7% per year, Romania must devise and apply medium- and long-term industrial and macroeconomic policies which will stimulate a sustainable development and an increased competitiveness in most productive sectors (industry, agriculture, construction). This will lead to the development of services related to production and the overall development of the tertiary sector.

The validity of this policy is confirmed by the fact that the economic progress of the developed countries was initiated and sustained by the development of the industrial sector. Despite the fact that these countries differ in size, natural resources, and economic and social policies, they all share certain characteristics, all of which generally came to support the development of the industrial sector. These factors are:

? **Technological transfer and investment of foreign capital**, due to attractive economic conditions;
? **High savings and investment rates (20-35%);**
? **Increasing domestic consumption and export potential;**

? **A spectacular increase in workers' productivity and expertise**, seconded by discipline, team spirit, a sense of duty, and respect for the law.

The progress made in the past few years by some Central and Eastern European countries was supported, to different degrees, by the same factors, but also by their fast pace introducing reforms and restructuring.

Unfortunately, Romania has not synchronised its macroeconomic and sector policies in order to create appropriate conditions for a sustainable development.

5.3.2. The strategy for the sustained development of Romania's industrial sector

PREMISES

a) Natural potential and resources for industry

Although the natural potential of resources for industry is not a limiting factor for industrial development, it represents an element of comparative advantage, which should be taken into consideration when trying to establish the desired structure of the industrial sector and of sustainable economic growth.

Mineral resources

More than 120 different substances that could be used in industrial production can be found in Romania's geological deposits. According to their size, these deposits fall into the following categories:

? **Deposits that could ensure long-term industrial production**, if the demand, the extraction and processing technologies will allow for profitable gains, given the fact that environmental protection standards must be also observed. The following deposits fall in this category: coal (for the generation of energy), copper, lead, zinc and molybdenum minerals, salt, limestone, mineral water, certain materials used in the glass and ceramics industry and in the production of construction materials. The low content of useful substances in non-ferrous ores, the high costs of environmental protection, and the low calorific efficiency of coal are disadvantages that on short and medium term will maintain the production at the same level in particular sectors like non-ferrous metallurgy and thermal power production from coal).

? **Deposits that can ensure productions at the current levels for a limited period of time** (approximately 30 years). Oil and methane gas may serve as examples. Taking into account the fact that imports are needed in order to meet demands for industrial and power consumption (including the needs of population). Romania has a transport and storage network (which is being developed and modernised) as well as important capacities for primary and secondary processing. This means that by increasing the quantity of imports from traditional sources such as the Russian Federation and the Middle East, as well as the Caspian Sea zone, is possible and feasible. Connection to the West European gas distribution network could ensure the diversification of sources and make the supply more secure. The chemical and petrochemical industries should primarily use oil and gas produced in Romania and not imported, since it is of better quality.

? **Deposits that could only satisfy to a lesser extent the needs of the industry at present or in future**. Over 90% of the required ferrous ores, cooking coal, bauxite, and barite are imported.

? **Deposits that draw the interest of industry but are used to a small extent** because certain technical and technological problems could not be solved and the processing would have been unprofitable. Uranium deposits, titanium and zirconium sands, geothermal water, and others fall into this category.

Vegetal and animal resources

In this sector, Romania has significant and diversified resources. If appropriate economic policies regarding agriculture, fruit growing and animal breeding will be implemented, the present productions could increase dramatically and have a positive effect on the following industrial sub-sectors:

? **Food, drink, and tobacco industries** (meat and fish products, various kinds of cheese, butter, margarine, sunflower seed oil, bakery products, sugar and sugar products, vegetable and fruit preserves, wines, fermented ethyl alcohol, beer, tobacco products, etc.);

? **Textile and clothing industry** (thread, wool, fabric and clothing made of linen, hemp, silk, or in combination with synthetic fibres);

? **Leather goods, footwear, and fur industry** (sheep, lamb, cattle leather, furs from hunted or farm-grown animals);

? **Pharmaceutical products industry** (using medicinal plants and extracts from the organs of animals).

Forestry Resources

The present potential of forests can guarantee an annual supply of over 16 million cubic meters of timber. Most of this can be used for the production of furniture, cellulose and semiprocessed materials (timber, plywood, veneers, doors and windows, wickerwork, etc.).

Increasing the contribution of this industrial sector to economic growth will only be possible if timber is used more intensely (decreasing exports of wood, lumber, and other forest products, as well as increasing the production and export of furniture, the quality and design of which require significant improvement).

Hydropower resources

Currently, only 40% of Romania's hydropower capacity is used and during the last few years it ensured over one-third of electric power production.

Once the ongoing investment projects are finished, the production of hydroelectric power will increase by 20%, reaching 19,500 GWh/year, if hydraulic activity is maintained at a normal level.

In addition to the obvious advantages of hydropower generation from the point of view of sustainable development (renewable and non-polluting resource), further advantages provided by hydropower facilities are: supplying water to cities and towns, reducing the likelihood of floods, attracting tourists, creating sports facilities. Thus, ***reconsidering investment policies in this field is extremely important***.

Reducing the specific consumption of certain raw materials, materials and power, as well as the redeeming in the production cycle of waste and other materials that could be recycled, is a ***potentially important resource for the industry***, but in Romania it is not used as much as in other countries.

The potential of the E.U. countries in saving power was estimated at 30%. In addition, the E.U countries have specific consumption with 10-50% below that reported in certain sectors of Romania's industry. A similar situation is encountered in the consumption of certain raw materials and other materials per unit of added value. In this context, it can be estimated that by improving the macrostructure, saving energy and materials, as well as recycling recoverable materials, most of the resources necessary for the economic growth (the increase in added value) can be ensured in the next 15-20 years.

b) Output Capacity

At the end of the first semester of 1998, the number of enterprises (economic agents) active in the industrial sector was larger than 37,000, as compared to 2,224 in 1990. Most of these enterprises operate in the food, beverage and tobacco industry (25.5%), textile, clothing, leather, and footwear industry (21.6%) wood processing and furniture industry (18.3%). In these sectors, starting in 1991, a considerable number of small private enterprises were established. Consequently, the capacity of small and medium-sized businesses represents 95.7% of the total capacity, and these businesses can be grouped as follows:

- ? 72.5% micro (less than 10 employees),
- ? 17 % small (more than 10 but less than 50 employees),
- ? 6.2% medium (more than 50 but less than 250 employees).

According to the number of employees, the average size was reduced from 1,652 to 63 workers per enterprise, and in state-owned enterprises of national interest, the number of workers dropped from 2,045 to 959. The average size of a privately owned enterprise was of 21 employees in 1996 and 29 in 1998.

Output facilities, most of them constructed between 1965-1985, were built under the license and with know-how from prestigious foreign companies that also provided machinery and equipment. In that time frame, these production units contributed to the increase of competitiveness, development of the industrial culture and an increased level of the workforce expertise, because a large number of specialists and workers had been trained by the firms holding the licences. After 1980, **these production units showed signs of obsolescence and rapid depreciation.** This process intensified because of external debt payments and continued to accelerate dramatically after 1989, since all the costs for research activities were cut off, foreign currency being used mostly for consumption.

c) Human potential

The industrial sector employs 2,224,000 employees (4th trimester 1998), i.e., approximately one quarter of the civil working population (as compared to 37% in 1990) and 44% of the total number of wage earners.

* Between 1991 and 1998, the personnel employed in industry was reduced by 40%, the industries with the highest unemployment rate were the textile, leather, footwear, machinery, and machine building industries, as well as the automotive industry.
- ? From the total workforce employed in industry (100%) the **size of the workforce employed** by each sub-sector is as follows: mining industry: 7.1%; electric and thermal power, gas, and water industries: 8.8%; food, beverages, and tobacco industries: 10.6%; textile and clothing industries: 16.1%; leather and footwear industry: 3.2%; wood processing, cellulose paper, and furniture industry: 10.7%; chemical, petrochemical, oil refining, rubber processing, and plastics industry: 7.6%; metallurgy:

5.9%; machinery and equipment industry 10.7%; automotive industry: 7.2%; construction materials, glass and ceramics industries: 4.4%; metal products and metal constructions industry: 3.8%; electric and optical equipment industry: 3.9%.

? The **structure of the workforce** according to age groups (1996) is better balanced in industry than in other sectors of the economy and creates the necessary conditions for the sustainable development of industry. 90% of workers employed in industry are under 50 years of age, and 42,2% of workers are under 35 years of age.

? The **specific problems** that should be taken into account in designing the strategy for a sustainable development of the industry refer to the creation and application of a professional and managerial training system, in line with the global technical and technological progress. This strategy should also rehabilitate the activity of scientific research, stop the emigration of highly qualified specialists, and offer new opportunities to the unemployed, especially in the development and specialisation of services.

d) Competitiveness of Romania's industry

The **increasing decline of production and the low occupancy rate of the production potential** demonstrate the decline in competitiveness in most energy intensive sectors that also require costly materials and capitals.

As a result of foreign capital investment, privatisation, and certain technological improvements, the following industries have had a **relatively satisfactory growth**: the communications equipment industry, the automotive industry, as well as industries manufacturing electric equipment, textile, clothing, construction materials, furniture, tyres, antibiotics, and chloride and sodium products.

The shrinkage of the industrial production has been determined mainly by the **slow adaptation to the new demands and structure of the markets** after 1989, **managerial incompetence at the microeconomic level** (technical, financial, commercial, human resources) **especially in state-owned enterprises.**

Other factors were: the **increasing loss of capital and the dull economic environment, the slow pace of privatisation and restructuring, the incoherent and unstable legal framework** which discouraged foreign investment, the **insufficient support offered by the banking system to the reform process** and also, **the inability to use the opportunities created by the Association Agreement to the E.U.** (technical and financial assistance, the asymmetric tariffs regime, safeguarding clauses, etc.).

e) Privatisation

The development of the private sector in industry was slower than that of other economic branches. In 1997, the industry's contribution to the net added value in the private sector of the economy reached 25.9%; this exceeds the contribution of the private sector in business.

The private sector prevails in manufacturing varnish and paint (85%), cosmetics (93%), detergents (74%), meat products (67%), cooking oil (63%), bread (75%), beer and wine (over 60%), household glassware (86%), china (79%), newspaper editing and printing (94% and 75%, respectively), tyre, clothing, automated telephone exchange equipment (over 50%) etc.

Fields where the **private sector has a significant contribution with tendencies to increase**: leather and footwear industry, wood processing, cement and construction materials industry, pharmaceuticals, chemical fertilisers and automobile industry etc.

The **contribution of the private sector is very low** in sectors requiring large investment: the extractive industry, the generation of electric and thermal power, metallurgy, refineries and petroleum industry, manufacturing of machinery and equipment, cellulose and paper, etc.

It is noteworthy that **in the private industrial sector productivity is clearly superior to that in state-owned enterprises**.

This is demonstrated by the fact that 29.7% of the total population employed in the private sector produced in 1997 over 43% of the net added value. This is the result of a more efficient microeconomic management, of a more active investment policy and of amortisation of the fixed capital.

OBJECTIVES AND DIRECTIONS FOR ACTION

The deterioration of the industrial and economic activity, a situation that was first seen in the 1980s, then the accelerated decline and chronic macroeconomic imbalance created between 1990 and 1998, demonstrated that in the general context of the difficulties generated by the transition process, the socio-economic evolution of Romania was also adversely affected by the absence of an integrated global strategy capable to define a pragmatic approach to the medium- and long-term options and goals to be realised in the development of the main industrial branches and to evaluate and optimise the impact upon the human development.

In this context, the strategy for the sustainable development of the industrial sector should seek an increase in competitiveness, and based on this, it should also seek stable and sustained economic growth, in conjunction with the environmental protection. This goal is not simply a desideratum, but a necessity. If this goal is not achieved, integration within the E.U structures and the global values circuit will not be possible, given the globalisation of the economy and the elimination of tariff and non-tariff barriers.

The industry and the agriculture accounted for 31-32% and 16-20%, respectively, of the GDP, and the figures are superior to those reported by several developed countries. This does not lead to the conclusion that the activity in these two important sectors of the economy should register a decline. The contributions are related to a lower value of the GDP per capita and the contribution from the other branches of the economy (the tertiary service sector, for example,) is very reduced.

An average increase of the added value in the industrial sector of 6-6.5% in the next 15-20 years is estimated as being feasible. However, reaching this goal implies an essential modification regarding resources for economic growth, though the creation of a superior dynamic of net added value as compared to the one of intermediate consumption.

In order to achieve this goal, the main guidelines for action could be the following:

a) **Outlining an operating industrial macrostructure** , taking into account the following guidelines:

? **The dimensions of the domestic market** and the prospects of expanding demand for consumer and capital goods in the long and medium run.

? **Interference and spreading effects** among industries that have the potential to develop (agriculture, communications, transport, construction, and public works and utilities, etc.). The ideal overall structure of the industry would need to include the industries capable to support the agriculture (manufacturing tractors, agricultural machinery, fertilisers, irrigation equipment, pesticides) as well as those that depend on agriculture (food industry, liquor and tobacco industry, textile and clothing industry, leather and fur industry).

? **Contribution to the efficient and competitive usage of raw materials, materials and power**, which will lead to an increase of added value per unit of resource used.

? **Size and technological level of fixed capital**; level of attractiveness and realistic perspectives for attracting foreign and domestic capital investment in the modernisation process which will increase competitiveness, according to the profitability of capital spending (duration of capital recuperation).

? **The current and estimated increase in size and efficiency of exports** and the efficient use of material and power resources directly or indirectly contained in exported products, based on the results of marketing activities and on the favourable estimated effects of microeconomic privatisation and restructuring. Comparing Romania to other countries that aspire to E.U. integration sets Romania at a disadvantage. Romania's per capita export is 4 times lower than Hungary's, 6-7 times lower than the per capita export in the Czech and Slovak Republics, and 12 times lower than that of Slovenia. Though 95% of the exports from Romania are industrial products, during the past three years, export earnings have been limited to approximately $8.3-8.4 billion. Revitalising the exports would significantly aid economic growth, reduce the balance deficit in foreign trade and help stabilising the national currency.

? **Following the global trends towards the expansion of certain industrial sectors**, which are characterised by, sophisticated technology with applications in the information society, as well as the capacity of radiating the technology, i.e. the ability to introduce products or services into other economic and social sectors.

Observing the above-mentioned guidelines, the industrial sectors (which may be divided into three categories) will benefit from the application of policies capable to speed up the selective restructuring and the privatisation process, apart from some monopolies that must still belong to the state, and to attract foreign and domestic capital.

The first category includes the strategic industries; these ensure that certain fundamental needs are met and have a major impact on the performance of the socio-economic system, power sufficiency, national defence and public health, under normal and emergency circumstances. This category could include: production, transportation and distribution of electric and thermal power, extraction, processing, transportation and storage of hydrocarbons, defence industry, production of certain pharmaceutical substances and products (antibiotics, vaccines) needed in emergency situations, when epidemics break out, or in cases of natural disasters.

The second category includes industries that could significantly influence sustainable economic growth, international economic exchanges, and the modernisation of infrastructure and other branches of the economy. These industries could also propagate influences upon employment, productivity increase, and efficiency in the processing of raw materials and materials. The following sub-

sectors fall into this category: industries assisting in the modernisation of agriculture and the efficient use of agricultural, forest, and animal breeding products, communication equipment, computer and software technology, vehicles, secondary processing of ferrous and non-ferrous metal products, processed macromolecular products, clothing, furniture, and paper industry, electronic assembly industry, environmental protection equipment industry, certain categories of machinery and spare parts, construction materials industry, waste recycling.

The third category includes the remaining sectors and sub-sectors of the extractive and processing industries.

b) **Intra-sectorial restructuring** must seek to improve the production structure and its performances and the modernisation of technologies in viable enterprises, as well as in those enterprises that have the potential to become viable. This restructuring should take place in all viable or potentially viable enterprises, no matter the sector they belong to, since, without in-depth market and sector studies done by professional associations and economic agents, it is currently hard to predict which industries will be subject to economic growth in the future.

Financial and human resources should focus on the production of a limited number of products and, in certain cases, of product components, in order to increase, in a shorter time span, the competitiveness of products, exports, productivity and added value. This can also be achieved by co-operating with high-standing companies from developed countries.

Closing down or converting oversized enterprises, enterprises with obsolescent or inefficient technology, without any prospects of becoming competitive.

c) **Conforming to European and international standards** could act as a catalyst for export growth and, at the same time, would increase the efficient use of resources, bringing along an increased added value.

d) **Expert products that require advanced processing standards**, that would lead to the creation of specialised structures that will research markets and promote Romania's own interests on third markets.

e) **Strengthening of efficient use and growth of the country's own research and development potential.** This implies ensuring co-financing and credits that will support the creation of efficient technology of national interest.

f) **Acceleration of privatisation** could stimulate the free enterprise, and this would lead to an efficient use of industrial capacity. This could also render the economy more flexible to the demand on the domestic and international markets.

Investment of domestic private capital, in addition to the investment of foreign capital, is a premise for sustainable economic growth in the national interest.

g) **Increasing managerial performance** is an essential pre-requisite for the increase of the industry's competitiveness. The government should support the training of managers in the private and public sector. Global experience proves that management determines whether privatisation will succeed or not, keeping in mind that it is the managers and not the shareholders who manage an enterprise. Investing in management is, in all developing countries or countries that lack experience in market economy, the most profitable investment sector. Investing in management training will considerably increase economic competitiveness and growth in the medium and long run.

h) **Developing the services required for production,** from the initial stages of the production process (research and development, design, technological engineering, testing, market forecasting) to the intermediate stages of the process (management, maintenance, quality control) and to the final stages of the process (distribution, advertising, post-sale services). This is a condition not an option that will make competition on the market and an increase in exports possible. Therefore, it is necessary to supply more products and services.

i) **Increasing the potential for competition by concentrating the industrial and industrial-financial sectors of the economy in holding associations** especially in the area of 'strategy and finance'. The globalisation process stimulates this trend, and there is a gradual but rapid tendency to eliminate tariff and non-tariff barriers. This leads to the attainment of certain important requirements of sustainable economic growth by means of:

? *Drawing up and applying certain coherent strategies* on long and medium term, with special attention being paid to the best employment of limited resources; this can be achieved by certain advanced processing cycles, which will have a favourable effect on added value and employment.

? *Increasing of the financial, research and development potential, with the optimisation in the utilisation of domestic and foreign capital* by specifically dedicating investments to the modernisation of products, technologies, market research, organisation of international co-operation, professional and managerial training, etc., depending on the economic efficiency of expenditures.
? *Development and consolidation of partnerships with small and medium-sized enterprises.*

j) **Environmental protection commensurate with the industrial growth** Though Romania is not a country with a high level of pollution, in 14 industrial areas pollution exceeds the admissible norms. Between 1990 and 1998, the emissions of polluting agents into the atmosphere were significantly reduced. The pollution of water and soil also fell slightly. This progress was due mainly to the decrease in industrial production and, to a lesser extent, to the capital investments intended for environmental protection. Only during the last few years has the capital investment for environmental protection become a component of the industrial policy in Romania. The objectives of the programme for the reduction of industrial pollution is geared especially towards meeting the obligations of international bilateral and multilateral agreements on the protection of the environment signed by the Romanian government. Another objective of the programme for the reduction of pollution is the development of a system of self-control for enterprises releasing pollutants. Finally, the third objective is the compliance with the provisions of the laws on environmental protection.

The working plan regarding pollution refers mainly to highly polluted areas and is intended to reduce pollution, while at the same time achieving economic development. This working programme is made up of more than 400 projects for the chemical, petrochemical, extractive, power generation, metal and steel industries. The implementation of these projects, phased out along a ten-year period, depends on provision of the required financial resources, since the cost is estimated at $4 billion.

The transition to a sustainable industrial development must start with the prevention of environmental pollution. In order to achieve this, industrial outputs and projects must be compatible with environmental protection throughout their entire lifetime. Taking into accounts the costs for pollution reduction could drive more and more entrepreneurs to use clean technologies.

A likely scenario of the economic growth in industry may be constructed by taking into consideration intensive factors (lower specific consumption of materials and power where saving is possible, increasing capitalisation by improving the performances of the products and the acceleration of the amortisation of the fixed capital). In this way, a more active increase in the net added value would be possible at a higher rate than that of the industrial production.

	Average annual rates (%)			
	2000	**2001-2005**	**2006-2010**	**2011-2020**
Gross added value	1.5	5.5 - 5.9(5.7)	8.0 -8.6(8.3)	5.5 - 5.7(5.6)
Industrial production		4.0-4.5	5.5 -6.0	4.0 -4.5
Intermediary consumption		2.5 -3.1	3.0 -3.4	2.5 - 3.3

The above mentioned scenario could lead to an average annual increase in added value of 6.3% between 2001-2020. This can happen if a reasonable increase is obtained in the industrial production (after a decline of about 50% during the past 10 years) and in the intermediary consumption (through efficient use of the saving potential of materials and energy).

It has been estimated that privatisation and the increase in the quality of microeconomic management will contribute to the relaunching of those investments (including foreign investments) meant to modernise certain sectors of the industry and to increase competitiveness.

Taking into account the estimated decrease of the extracting industry and the slow development of the power sector, economic development will be based, almost entirely, on the processing industry.

5.4 Transport

The transport sector has been an important consumer of energy (electric power and hydrocarbons). As compared to 1998, the consumption of hydrocarbons has increased by approximately 35%, which reflects mainly changes in the structure, means and volume of transportation.

At the same time the number of motor vehicles has increased considerably. Thus, the number of privately owned cars has increased by 11%, the number of buses by 4%, and the number of vehicles for the transportation of goods by 6%.

The public roads network has a total length of 73,260 km, excluding city streets (14,683 km). Of these 73,260 km, national roads make up 14,683 km (4,058 km are open to international traffic). In 1998, the railway network had a total length of 11,014 km. As a result of the structural changes, caused by the transition to a market economy, the volume of transportation of goods and passengers has been suffering

a constant decline. Thus, in 1998, 62.4 billion tons /km were transported. Out of these 62.4 billion tons km, 19.7 billion tons /km were transported by train, and 15.8 billion tons /km were transported on roads. In the same year, 24.2 billion passengers /km were transported, 13.4 billion passengers km by train and 9 billion passengers km on roads.

Moreover, the transition to a market economy profoundly changed the way in which specialised transportation units are organised and the way in which property is organised. Specifically, the transition process led to an increase in the number of privately owned businesses and joint ownership. Currently, the transportation sector and related sectors have 12,250 active authorised and licensed economic agents who represent 6% of the total wage earners in the economy.

In the context of the existing legislative framework, private businesses and economic agents can act freely and independently, since the Department of Transport, as a governmental authority, no longer acts as a manager and administrator, but rather as a regulating, authorising, and licensing body.

Access to the transportation infrastructure is free and equal for all transport operators. The maintenance of the infrastructure is predominantly provided by the national companies resulted from the reorganised units of the state transport sector.

The main goal of the transport policy is the restructuring of the national transport system and its proper functioning, with a view to create of a homogeneous transport system, connected, from an infrastructural point of view, to the pan-European road network, which should also connect more isolated areas. This restructuring process should consider offering high-quality domestic and international transportation services.

Ensuring the financing, from domestic and external resources, of major projects that seek to modernise the transportation infrastructure is a priority matter, since the modernisation of the transportation infrastructure would stimulate the development of other sectors of the economy. This would also reduce unemployment, since every employee in the transportation sector leads to the creation of 5 jobs in sectors related to transportation (maintenance, constructions, services).

Central and local administrations, as well as economic agents, should get involved in finding the financial resources needed to make sure that the impact of traffic on the environment is reduced (this includes the rigorous limiting of the level of polluting emissions and the in-traffic controlling of these emissions).

The guiding principles in the policies leading to the sustainable development of the transportation sector are:

? **On the domestic market**, regulations are meant to bring the level of pollution to E.U.'s standards. This includes: fiscal and legislative co-ordination, competition, equal access, market liberalisation, rehabilitation and modernisation of infrastructure and equipment, ensuring communications and co-operation between different means of transport, improving the quality of transportation services and of the related sectors, development of a managerial culture capable of leading transport companies and joint-stock companies, internalising external costs, guaranteeing communitarian rights (goods -- motor vehicles, services, persons -- the right to settle), signing of the transport agreement with the E.U., which is being negotiated, as well as the E.U. agreement regarding the incidental transportation of passengers, the agreement between Romania and the E.U. regarding the road transit of goods, the Agreement between the CE and its associates (including Romania), Norway, and Iceland regarding the creation of a collective flight zone.

? **Creation of a pan-European transport network** and its connection to the TRACECA corridor (Transport Corridor Europe-Caucasus-Asia). In order to accomplish this, it will be necessary to concentrate financial resources (from the state budget and from external sources) on the modernisation and development of a transport infrastructure, and, in order to achieve this, to attract non-refundable financing from the PHARE Program. There are already funds designated to the development and improvement of transportation infrastructure (the special fund for public roads and the special fund for airlines). Regarding the connection to TRACECA, the pan-European corridor number VII, with the Danube possibly playing an important role (connecting Western Europe and the Black Sea through the Danube-Black Sea Canal), since water transportation is cheap and has a low level of polluting potential.

? **Guaranteeing traffic safety and safety of goods and passengers**. It will be necessary to comply with technical standards, to modernise the infrastructure, means of transport, and equipment, to grant technical licences for vehicles, to regulate the transportation of dangerous goods, to implement and apply the Control System regarding the compliance of ships (PSC and fire prevention) with international provisions.

? **Environmental protection and conservation**. A sustainable transport policy must be achieved by using ecological types and means of transportation. It will be necessary to appeal to de-polluting technologies and preventive measures in order to diminish the effects of pollution (for example,

inspecting the technical condition of road vehicles), to license economic agents intending to perform transportation-related services and activities. Promotion of financial mechanisms with the aim of encouraging the use of less polluting means of transportation with a reduced level of fuel consumption will also be mandatory.

? **Social protection**. Compensations must be given to the unemployed, new jobs created, re-training provided, health insurance by the Transport Workers' Health Insurance must be offered.

? **Institutional reorganisation and reform**. Necessary steps to be taken are the restructuring of the state companies, establishing certain agencies responsible for control and inspection, and removing this responsibility from the Department of Transportation, creating and developing structures for the implementation and control of legislation, making more use of human resources, focusing on problems related to territorial and transport planning, promoting research and development in the field of low-consumption vehicles and alternative transport technologies.

Considerations regarding the different types of transportation:

? **General**: Extended use of combined and inter-modal transportation using special rolling stock with a low level of consumption and pollution, introduction of centralised management for the transportation of goods (inter-modal platforms), improving the sale of train tickets at regional and national level, introducing electronic payment systems, using modern technology. For air transportation, the BSP Romania system is used, which facilitates the sale of tickets, for all airlines operating in Romania, throughout the country.

? **Road transportation**: Since 1998, EURO 2 norms have been applied to imported vehicles. As of January 1, 1999, the same norms will be applied to vehicles produced in Romania.

? **Railway transport:** Use of electric engines for trains, use of modern rolling stock that will allow an increase in speed, use of modular units for goods trains, increased use of electric and diesel trains for passenger transportation, introduction of modern loading and unloading technologies.

? **Water transport:** Replacing traditional vessels with modern ones, modernising loading and unloading systems.

? **Air transport:** There is a process underway of replacing the old, poorly performing aircraft, with modern ones. Therefore, TAROM owns 8 Boeing 737-300 planes, 6 ATR 42-500, and 2 Airbus 310; in the future we intend to buy more Boeing 737-700 aircraft and replace Airbus 310 with Airbus 330.

The strategy for the transport sector will be applied by combining actions at the governmental level with actions at the regional and local level. The recent Green Card for the Environment, edited by the European Commission, shows that solutions for the urban environment are provided by urban strategies (including transport strategies), as they are a fundamental element in the achievement of global objectives.

5.5 Communications

The project for Romania's sustainable development would not be complete without strategies and policies for the development of communications, in accordance with the national interests and the requirements for international co-operation.

Starting from this premise, the following strategic objectives have been defined:

? Developing a NATIONAL COMMUNICATIONS SYSTEM in order to create an information society in Romania;

? Connecting Romania to the global information flow, in order to integrate Romania into the GLOBAL SOCIETY.

These are, at the same time, integrating directions, which concentrate the basic guidelines of modern society.

The National Communications System will be developed into the infrastructure of the National Information System, having the role to receive, process, transport and deliver the information in every form (voice, image, data).

The obvious tendencies to integrate communication technology with information science technology show the main direction for the development of society. Free access to structured information through the Internet is the best example. In modern society, these technologies have major implications, and they offer many advantages but they may also pose as many dangers, depending on the goodwill of its users.

Protecting on-line information as well as solving certain intrinsic problems such as Y2K is a major task for computer scientists. They have to win over the trust of users, in order to increase the amount of electronic commerce and other activities that can help solve certain humanitarian and social problems or lead to better training and education (tele-medicine, tele-learning, tele-working etc.)

The government must attempt to co-ordinate the development of the national communications system and the establishment of the information society, the main instrument being the co-ordinated development of the Communications Strategy and the Information Strategy in economy and society.

The first tactical objectives of separating the strategic and regulatory functions on the one hand, and the operational function on the other, have already been accomplished. The liberalisation of markets and communications networks and the creation of a competitive business environment network, interconnection and interoperability of services are currently underway.

Also, the management of natural resources will be institutionally separated in the future from market regulation and supervision of markets.

One of the most important conditions that have to be met in order to solve the problems in this sector is to create the awareness that resources - the national assignment of telephone numbers and radio frequencies - are limited like any other natural resources, though they are less tangible.

Their judicious management and their protection according to environmental protection principles are essential elements of normative, institutional, technological and commercial reform, with the additional efforts of the national operators that are currently formulating their sector policies.

Harmonisation of internal regulations, norms, and technologies with those in Europe, as well as regional co-operation in the field of communications, are very important political decisions.

Romania's active participation in the main international bodies involved in decision making regarding the development of communications, the most dynamic sector of the global economy, must not be neglected. The gradual harmonisation of internal and international regulations is a major contributing factor to Romania's integration in the European Union, as is the interconnection of the National Communications System to the regional and international communications systems.

Technological advancement and level of usage of the latest value-added services are good indicators for a country's level of economic development. Therefore, the strategy for sustainable development must also have in view means of encouraging the increase in the number of users and in the flow of voice, data and image transmissions via the national system of telecommunications using incentives, including flexible tariff and customs policies.

5.6 Information Technology

This strategy sets global objectives on short term (until the year 2000) and a medium and long term (until the year 2005).

The short-term objectives of this strategy are:

? Creating a national communications infrastructure capable to offer support for the introduction and intensive use of data processing capabilities at the local and central level of the public administration (up to the municipal level);
? Developing the national industry for products and services specific to the information and communications technologies, software industry, especially the software industry;
? Creating a context that will encourage the use of information and communication technologies on a large scale in all economic and social fields and the harmonisation with E.U. regulations in this field;

The medium- and long-term objectives of the strategy are:

? Extending the communications infrastructure (up to the level of communes);
? Romanian society should reach a level of data processing technology that will allow its integration into the European information society.

Strategies for a short and medium term must be sustainable, but also dynamic, taking into account the unparalleled technological development in this field. As a result, the above-mentioned objectives must be achieved by:

Extending an modernising the national infrastructure:

? Creating an information core, consisting of lists and classifications of general interest, permanent registers (population, territorial-administrative units, road infrastructure, socio-economic agents, general surveys, etc.), public databases (legislation, synthetic indicators, patrimony objects, licences and copyrights, etc.);
? Creating a data communications infrastructure for the public administration sector, including the justice system
? Ensuring the existence of a legal framework for the development and use of information technology, that should be compatible with that currently used in European countries: freedom of information, data protection and security, personal data protection, status of electronic documents, intellectual property in the field of databases, regulation authority and data processing control, responsibilities and sanctions for computer crimes.

Ensuring availability of human resources and preparing the general public for the information society:

? Training of highly-qualified specialists in information and communications technology;
? Supporting the development and transfer of technology for the development of the information society;
? Increasing the level of general education through the use of information and communications technology;
? Making the public aware of information and communications technology, and creating positive public opinion.

Development of information and communications products and services, giving priority to the production of software for export:

? Stimulating the supply of information and communications technology products by concluding strategic partnerships with important producers in the field and granting of fiscal facilities, etc.;
? Stimulating the demand for products and services provided by the information and communications technology by expanding the use of information technology in as many fields as possible;
? Introducing a rigorous certification and safeguard system for information and communications technology products and services in order to increase their quality.

Using information and communications technology in order to support reform in public administration:

? Ensuring a uniform and co-ordinated introduction of data processing systems in central and local public administration, including the judiciary sector; this should lead to improved public services and to a simplification of administrative practices and procedures;
? Optimisation of communications and flow of information between institutions;
? Gradual generalisation of the information exchange based on information technology;
? Ensuring access to public information by means of information and communications technology (information centres, electronic stands, etc.);
? Ensuring the compatibility and inter-operability of data systems used by the public administration at national and international level by introducing new methods, norms, and standards;
? Co-ordinating public acquisitions of information and communications technology products and services according to European regulations;
? Monitoring funding for data processing systems according to the suggestions contained by the projects for international assistance and co-operation.

From the above-mentioned actions, the following must take **priority**:

? Creating the National Data Systems Infrastructure: infrastructure for communications, descriptions, registers and data banks of national interests;
? Stimulating the development of information and communications technology products and services; priority should be given to the development of software for export;
? Encouraging data processing projects whose aim is to support the reform in the public administration and the judicial sector, and to improve public services for the population;
? Active participation in European programmes dealing with information technology in society, and harmonising national legislation with the European legislation;
? Ensuring the training of highly qualified specialists in the field of information and communications technology, and increasing professional expertise by means of national research and development programmes;
? Continuous training and education of the public, especially the young people and the active workforce to prepare them for the information society.

5.7 Tourism

The current situation of tourism in Romania

In 1998, the main indicators of the activity in tourism were the following:

? Existing accommodation capacity for tourists (places) 287,000
? Operating accommodation capacity for tourists (places * days) 53,164,000
? Tourists accommodated in specialised units 5,552,000
? Of whom foreigners 810,000
? Overnight stays in units for tourists 19,183,000
? Of whom foreigners 2,207,000

The above data indicates that the actual availability of accommodation is only 50.7%, and only 36.1% of the operating capacity is being used.

Until the year 2020, a significant increase in the accommodation capacity for tourists is desirable and also possible without constructing additional buildings. This can be achieved by increasing actual accommodation availability for tourists by at least 85%, i.e. by an increase in occupancy to 60%. With the proportion of foreign tourists remaining at 14.6% of the total number of accommodated tourists, Romanian tourism can accommodate 6 million foreign tourists, as compared to 810,000 in 1998. Sustainable development of the tourism industry, while preserving the natural resources, can be achieved only if a set of measures is adopted:

? Defining precisely the objectives of the activity in tourism at the macro- and microeconomic level;
? Diversification of services offered in tourism, especially from a geographical perspective, through privatisation (this could also create jobs);
? Directing mass tourism to a limited number of areas of major importance and interest;
? Imposing high standards of quality by educating domestic consumers and investing in the quality of the services supplied;
? Improving the functional and relational quality of the services offered by training the operators who work with the companies offering tourist services, with special emphasis being placed on market research, and the orientation of efforts towards the identification of domestic and international opportunities and on the responsible use of the environment, as part of the investments made in tourism;
? Fair and equitable participation in covering the costs for environmental protection between suppliers and consumers of services;
? Creating a hallmark image for Romanian tourism, by emphasising the distinctive differences between Romania and the neighbouring countries, and by emphasising of the competitive advantages Romania has, such as the variety of landscapes, low prices, multicultural environment, the uniqueness of certain reservations, and internationally protected cultural and natural monuments;
? Associating tourism with the environmental protection and supporting the renewal of natural resources.

The government must, at the very least, implement a rapid national information system that will provide information regarding tourist and transportation facilities, regardless of who operates them. It should also provide a national information system for companies active in this field, providing information about results and new opportunities (for strategic orientation and hall marking), and a system for training and ongoing education for employees, which would ensure an increase in the quality of the services offered.

Strategic objectives in the development of tourism

? Better utilisation of the existing factors and conditions and an increase in quality and competitiveness.
? Structural and organisational reform, aiming at organising the activities in tourism and at creating the mechanisms for the functioning of these activities, according to the requirements of a market economy.
? Improving the skill level of the workforce active in tourism is essential in order to ensure a sustainable competitive position.
? Improvement and development of marketing and advertising activities will help create a positive and correct image of tourism in Romania, will help regain and develop certain markets.
? Marketing mechanisms and instruments, including the manner of financing need improving.
? Integrating Romanian tourism into the European and global trends, especially facilitating the influx of tourists into Romania, by means of development and encouragement of sustainable tourism, harmonising regulations related to tourism with the legal framework of the E.U. countries, harmonising statistics systems, ensuring the safety of tourists, eliminating obstacles that impede the free movement of domestic and international tourism, developing a framework for international co-operation at the governmental and public sector level, co-operation of professional tourist association, active participation in international organisations, and elaboration of documents for European integration in the area of tourism.
? Ensuring the safety, security, and protection of tourists.
? Improving the legislative framework necessary to achieve development goals in tourism also implies the proper evaluation of the current level of the regulations and the assessment of priorities, as well as the harmonisation of the normative framework with the international legislation.
? Harmonising tourism policy with national economic policies by establishing legislative proposals and specific measures that will facilitate the development of tourism.

5.8 Trade

During the last few years, Romanian trade has followed the same path as the economy overall. However, foreign trade has been additionally influenced by external factors related to the trends of the global market.

Thus, the reduced production capacity of the national economy, which was caused by the absence of modern technologies, the inadequate legislative climate that did not permit the implementation of reform measures, the increase in imports, the collapse of certain external markets (Asian financial crisis, Russian markets, the losses sustained because of the embargo imposed on former Yugoslavia, the reduction of trade relations with neighbouring countries) led to a decrease of exports, concurrent with an increase in imports. As a result, significant deficits of the trade balance were registered, and this had a negative impact on the economy as a whole.

Another element that had a serious impact on the foreign trade is the fact that Romania started to export goods that require a low level of processing, often under conditions of economic inefficiency. At the same time, complex exports, which could be regarded as traditional Romanian exports on certain markets or sectors, for example, the turn-key delivery of cement factories and power stations for countries in Africa and Middle East, tractors, trucks, and other equipment for markets in Asia and Latin America etc.) saw a sharp drop. This has been caused by a lack of medium- and long-term financial resources on the domestic market, the Romanian banking system being unable to offer financing terms at the level of those offered by foreign institutions. In addition to that, Romanian exporters were not granted the same facilities that the exporters in other countries are given. Moreover, the fluctuating exchange rate during the last nine years did not particularly help exports.

Romanian exports have increased at a moderate pace, but have not exceeded imports (especially during the past years), causing disequilibrium in the trade balance. (table 5.4).

Table 5.4

Evolution of the trade balance in the period 1992-1998

million $

	1992	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Exports (fob)	4,363.4	4,892.2	6,151.3	7,910.0	8,085.0	8,428.9	8,299.6
Imports (cif)	6,257.0	6,522.5	7,107.6	10,282.1	11,435,8	11,275.4	11,821.0
Balance	-1,893.6	-1,630.3	-956.3	-2,372.1	-3,350.8	-2,848.6	-3,521.4

Source:The Romanian Center for foreign trade

Starting from the fundamental idea that a country measures its internal economic performances against the international standards by assessing the performances of its foreign trade (exports) and having in view the process of economic globalisation, Romanian must adapt its economic development and commercial offer to the global requirements and trends. Currently, Romania's active integration into the global economy is relatively low (0.14% of world trade and approximately 1% of world's GDP). Consequently, market liberalisation and the opening of the national market alone is not enough for Romania and the economic restructuring that allows it to become part of the international market must follow these processes. In the current context, however, the point of departure must be sustainable economic growth that allows the development of certain commercial policies. These commercial policies should be seen as part of the economic policies as a whole, and the restrictions imposed by environmental protection must be taken into consideration. This is the only option that will assure the inclusion of Romania's supply into the global supply. Meeting this requirement is also a precondition for Romania's integration into the E.U.

Apart from the foreign trade component, internal priorities must also be defined within trade policies. As a result of total trade and price liberalisation and the population's drive towards consumption, the domestic market has developed during the last few years. However, there has not been a coherent development, requirements for sustainable economic development were not satisfied, nor was priority given to domestic producers and products.

Starting from the multiplier effect of foreign trade on the national economy, from the necessity to balance foreign trade, as well as the need to integrate the Romanian economy in the global cycle, directing the economy towards exports is a priority.

Exports may be the source for the most rapid economic growth (the absorption capacity of the foreign markets exists, while the absorption capacity of the domestic market will develop more slowly in time as a result of the sustainable economic growth).

Another immediate result of an increase in exports (realised under conditions of economic efficiency) may help solve the present unavailability of foreign currency and modernise the means of production.

The following actions must be taken in order to achieve the above-mentioned goals:

? Identifying certain products and services, as well as markets that should be given priority, certain potential niches that will allow a faster integration of the Romanian exports into the global economy (based on mutual advantage);
? Implementation and completion of a coherent system of mechanisms and facilities (including government support) for the stimulation of exports;
? Creation of competitive conditions so as the Romanian exporters and their foreign competitors be placed on an equal footing;
? Further promotion of strategic alliances (national and international);
? Stimulating business partnerships in the public and private sector, as well as between the domestic and foreign sector;
? Renewal and re-negotiation of certain commercial bi- and multilateral agreements that could lead to exports in areas of special interest;
? Developing free trade zones and encouraging specific activities;
? Encouraging the export of highly processed products high added value, as opposed to the export of low added value products, raw materials and reusable waste. The tendency may be crated by using market instruments (fiscal and customs policies).
? Defining a legislative framework (a collection of regulations) that is coherent, stimulating, and stable for Romanian exporters and which should be compatible with international legislation in the field.
? Promoting the export of ecological products and services, making use of Romania's comparative advantages over other countries.

In order to make foreign trade policies become efficient tools in achieving economic growth, import policies must be aimed at the fundamental objective of creating a dynamic equilibrium of foreign trade, so that exports will be higher than imports. Here is a set of measures:

? Identifying and defining priorities in the structure of imports (by products, countries, areas);
? Evaluating the impact of imports on domestic producers and formulating certain trade protection measures that conform to rules and practices agreed upon internationally in those sectors in which the national economic policies require such treatment;
? Stimulating, by means of market incentives, those imports that contribute to an increase in exports;

As long as they respect the international legal framework and practices in the particular field, and as long as they can be considered market tools rather than discriminatory administrative means, such measures are constructive economic (trade) policies aimed at prompting the economic development.

However, the domestic market must be an important component in the process of economic growth, and the environmental protection must be included (in particular, regulations and norms regarding packing, labelling, storage of goods, perishableness, generation of waste, etc.).

With all the progress achieved in internal trade (through the adoption of certain settlements), the domestic market must nevertheless evolve in the following respects:

? Developing the legal framework and the institutions needed for the creation of a unique domestic market (introduction and implementation of certain competition principles and practices, creating an institutional framework, integrating distribution licenses into a single informational system of the Commercial Register, harmonisation with international standards and norms). In this process of finalising legislation, the results of a permanent dialogue between professional and non-governmental organisations must be taken into account;
? Restructuring and modernisation of the distribution network (organising wholesale markets, promoting retail sales through modern networks of stores, increasing the technological standards of the distribution network);
? Monitoring competition, protecting the consumer, the environment, and quality of life (drawing up policies in this field, monitoring the market, and protecting consumers from abuses, by licensing merchants, harmonising consumer protection legislation with that of the E.U. countries);
? Increasing the general level of education and training in the distribution sector.

Apart from specific measures that will improve internal commerce, **a set of regulations is needed to improve business conditions in Romania and to develop the domestic market.**

This includes the need to take certain measures that will re-open the domestic market for goods and services, for consumption, and for investments. This can be accomplished if the consumers' demand for goods and services stops declining and **f** demand continues to be stimulated (fiscal measures, encouraging the sale of goods by instalments, adopting certain national and regional infrastructure programmes).

Domestic commercial policies could prioritise the generation of domestic demand for domestic products. Besides an increase in the quality of domestic products, which will automatically shift consumers'

demand to these products, the government could, for a certain period of time, adopt a set of measures that would create certain economic advantages for the consumers of domestic products and services.

Trade policies must be an essential component of economic policies through which Romania seeks sustainable development, and attention must be focussed on increasing exports and international co-operation in the trade sector.

The fundamental strategic objective for the development of Romanian foreign trade is to accomplish a dynamic and balanced exchange by promoting and stimulating the growth of exports and providing a higher rate of exports as compared to that of imports.

This priority has to be accepted under the present circumstances, but it can nevertheless determine a trend towards efficient exports. Those sectors of the economy that ensure environmental protection should be given priority in the development process, as a combination of economic and ecological development is the only possible way to sustainable development.

The commercial policies of any country are an essential tool for economic growth, but they have a direct impact on the use of natural resources. In this context, the direct or indirect negative impact of trade liberalisation on the environment must be taken into account, especially in countries with a less developed economy. The proposals for a more intense trade liberalisation that were discussed at the recent GATT round could have a direct impact on certain environmental protection measures and standards already adopted by numerous developed and less developed countries. Within the framework of the current GATT regulations (Romania is a GATT member), countries whose industrial production takes into consideration environmental protection could become less competitive than those countries that ignore the environment (by internalising the costs for environmental protection, products can become less competitive). Paradoxically, although countries around the world are aware of the dangers of resource exhaustion and degradation and are thus setting sustainable development at the core of their development strategies, international trade, which is the most important part of global economic activity, does not conform to sustainable development. That is due to continuous liberalisation of trade. However, the future will inevitably have to take into account this determining factor. A growing number of states protect their own resources, and fairly soon this will be reflected in trade. Therefore, the new GATT agreement will at least have to evaluate and determine patterns and procedures regarding the exploitation of resources. The care for resources began in developed countries, which were the first to take measures for the protection of resources, since they possess financial means and public awareness is high. **However, countries that are economically less developed, whose trade structure (exports) is based on the exploitation of resources, must be aware of the need to protect natural resources, and develop exports based on products that require a high processing level; otherwise their natural capital will be exhausted soon. At this point in time, while trying to draw up a development plan for the next 20 years, Romania must also take into account the orientation towards the exportation of products that require a high processing level. Moreover, the products for export must be obtained with a reasonable use of resources, this trend being one of globalisation, found in more and more international trade regulations. Otherwise, despite the short-term prospect of entering the international circuit of trade, the country will soon deplete its resources, making its own survival difficult (and expensive).**

5.9 Science and Technology

Trends and distinctive traits in science and technology (ST) during the transition period

The reform of the ST system in the period 1990-1999 depended, to a considerable extent, on economic development, and was given little financial and material funding as compared with the global trends. Attempts to change the institutional framework and to implement mechanisms to make it work did not lead to the desired results.

The main positive trends of the ST reform in this period were:

? Giving functional autonomy to research institutions, especially regarding the relations with other countries, in parallel with the drawing up of plans and priorities regarding the technological research and development (CDT) in the period 1999-2002;
? Introducing a competitive financing system in certain fundamental sectors of theoretical and applied research, at the level of the National Agency for Science, Technology, and Innovation;
? Participation of research institutions in different international bilateral and multilateral research and development (R&D) programmes and projects within the framework of the E.U. or other international bodies. This contributes to an easier integration of the national ST system into international structures, as well as to the international transfer of scientific knowledge;
? First steps in the creation and development of the private ST sector.

At the same time, a set of negative trends in the ST sector led to the conclusion that, currently, the survival of this sector is endangered. These trends are:

? The severe reduction of the personnel employed in research units, so that at the end of 1997 there were only 38,365 researchers, as compared to 74,736 in 1991;
? Concentration of the greatest number of researchers in the public sector, over 79%, while in countries with market economies 50% of the researchers are employed by the private sector. There is also a weak link between research and industry. In market terminology that would mean that there is hardly any connection between supply and demand, especially in the field of applied research;
? The ageing of the personnel, because this sector has become unattractive for young people, who seek jobs in well paid sectors - in 1997, researchers over 40 represented 61.8%, while researchers under 30 represented only 12.7% of the personnel employed in research.
? Low allocation of funds for R&D as compared to other countries has had a negative impact on wage incentives for special achievements and on the technological level of the sector.

Table 5.5

Effective number of the employees, in 1997

	Total employees		of which working			
			in research & development		***in production***	
	number	**%**	**Number**	**%**	**number**	**%**
Total	92,822	100.0	57,714	100.0	14,446	100.0
In research and development units	73,473	79.1	38,365	66.5	14,446	100.0
Type of property						
? public (government)	66,961	72.1	34,664	60.1	12,897	89.3
? combined	4,642	5.0	2,678	4.6	1,182	8.2
? private	1,870	2.0	1,023	1.8	367	2.5
In higher education units	5,627	6.1	5,627	9.7	-	
Type of property						
? public (government)	5,558	6.0	5,558	9.6	-	
? private	69	0,1	69	0.1	-	
In economic units that have research and development division	13,722	14.8	13,722	23.8	-	
Type of property						
? public (government)	10,381	11,2	10,381	18.0	-	
? combined	2,274	2.5	2,274	3.9	-	
? private	1,067	1.1	1,067	1.9	-	

Source: The National Commission for Statistics, 1998

? Lack of a system of objective criteria for setting research priorities; the sector is given low priority or is even totally ignored, with more attention being paid to other urgent matters without strategic implications;
? Inconsistent system of evaluating and funding scientific institutions in accordance with their real merits and scientific contributions;
? Decrease in the number of required and released patents, especially because the official results of Romanian researchers are used unofficially in other countries;
? Weakness of the private sector and consequently a week development of R&D.

There has been a decrease in public funding of research and development on the basis of the growth of own funds or obtained from economic enterprises. The lack of public funding might create the impression that the research sector can be self-supported, but what actually happened in absolute terms is the dramatic elimination of the funds dedicated to research. Research and development are activities included in special programmes found at the interface with other sectors of the economy (see Table 5.6).

Table 5.6

Total spending for research and development
sources of financing in 1997

	Total spending for research and development	**% % of total**

	-million lei-	
Total spending:	1,465,004	100.0
? Current spending	1,362,229	100.0
? For research that can be applied	909,200	66.7
? For experimental development	263,200	19.3
? For fundamental research	189,900	14.0
Total spending by financing sources:	1,422,056	97.1
? Public funds	621,106	42.4
? Own (micro-production services)	484,251	33.1
? Economic agencies	249,493	17.0
? Higher education units	22,167	1.5
? Non-profit organisations	8	-
? Other (including loans)	45,031	3.1
Funds from abroad	42,949	2.9

Source: National Commission for Statistics, 1998

The volume of capital invested in research and development is very low compared to the current volume of spending (table 5.7). The processing industry and the governmental sector absorb most of the R&D funds, which seems normal, given the generating role and the diffusion of technical progress in this field.

Table 5.7

Total (current and capital) spending

for research and development activities per sectors and branches

- bilion lei curent prices -

	Total spending	**Current spending**	**Capital spending**
Total	1,465.0	1,362.2	102.8
Enterprises sector	1,192.2	1,113.8	78.4
Agriculture, forestry, pisciculture	155.6	151.1	4.5
Extractive industry	60.8	60.0	0.8
Processing industry	745.9	676.3	69.6
Food, alcohol, tobacco products	9.8	8.5	1.3
Textile, textile products, clothing, fur, leather, footwear industries	25.3	24.9	0.4
Wood processing (excluding furniture)	2.8	1.9	0.9
Cellulose, paper	8.8	7.9	0.9
Oil processing (coal coking and treatment of nuclear fuels)	10.4	9.7	0.7
Chemical, synthetic and artificial fibres	96.5	93.9	2.6
Rubber and plastic	7.4	7.2	0.2
Other non-metal processing products	29.5	27.7	1.8
Metallurgy	59.6	54.2	5.4
Metal constructions, machines and equipment	484.5	429.1	55.3
Furniture and other non-classifiable activities	11.2	11.1	0.1
Electric and thermal power, gas and water	166.3	164.9	1.4
Constructions	20.9	20.0	0.9
Other activities	42.7	41.4	1.3
Research and development	12.5	11.8	0.7
Governmental sector	231.0	210.5	20.5
Higher education sector	41.8	37.9	3.9

Source: National Commission for Statistics

Without the considerable contribution of R&D, Romania's sustainable development is inconceivable. In future, R&D will require certain interdependent priorities to be set, of which the most important are listed below:

? Creating a national system for the propagation of technology whose main purpose will be to ensure the rapid transfer of innovation and technology throughout the country and abroad, even though the purpose of research in this case is rather applied, experimental, for debate. This system would facilitate a balance between supply and demand as well as the co-financing and the introduction of new technologies;

? Developing research centres at the company level, based on the efforts of each individual firm, but with some support from the government's special funding programme;

? Better motivation of and control over national research programmes financed by the government on a competitive basis and in accordance with the requirements of the reform and of the sustainable development strategy;

? Introducing a wage structure that rewards scientific value and practical results of the research;

? In a society that is becoming increasingly information-oriented, harmonising research and development with the needs of industry must concentrate on the following sectors: telecommunications, audio-visual, electronic commerce, as well the training of the workforce in this sector;

? Larger participation of the Romanian R&D in as many forms as possible of international co-operation, especially those organised by the E.U. countries.

5.10 Waste Management

The current situation

In Romania, as well as in other countries, the impact of waste on the environment has increased at an alarming rate during the past 20 years. The inappropriate management of this problem has caused soil, subsoil and ground water sheet contamination, emissions of methane, CO2 and toxic gases, with direct effects on public health. Storage units are full, and finding new ones poses big problems.

Recycling of materials is a priority of sustainable development for the following reasons:

? For certain raw materials the natural resources are poor or insufficient. Industrial processing of low quality raw materials is made in conditions of inefficiency or at a very low margin of competitiveness. However, importing the respective materials is only possible to the extent that the national account balance allows.

? The generation of resources by recycling waste (non-ferrous metals, steel, paper, and glass, etc) can be done at low costs, because the consumption of energy and water is very low. Also, the quantity of slag and the degree of pollution are reduced significantly (as compared to the extraction of useful substances from ore).

Table 5.8

Advantages of material recycling

- % -

Recycled material	Consumption reduction %		Pollution reduction %		Decrease of mining waste
	power	water	Air pollution	Water pollution	
Steel	47 - 74	40	85	76	97
Aluminium	90 – 97	8 – 10	95	97	10 – 12
Paper	23 – 74	58	74	35	-
Glass	4-32	50	20	-	80

Source: National Commission for Materials Recycling

Table 5.9

Waste recovery and its participation in securing the total resources in Romania as compared to the European average

- % -

Reusable material	Level of recuperation		Degree of participation in securing the total resources	
	Romania	European average	Romania	European average
Copper	39	45	30	36

Aluminium	33	40	10	24
Paper and cardboard	23	40	32	40
Glass	11	53	11	60
Plastics	7	25	9	20
Used tyres	15	50*	X	X

Source: National Council for Materials Recycling, 1999

The comparative analysis of waste recycling for the main reusable materials highlights the fact that Romania's situation is relatively similar to that seen in Europe for scrap metal and lead. However, the comparison also highlights significant differences in the level of recycling for other materials, where the results are well below the European average (table 5.9).

A special analysis is needed for household and similar waste (produced by commerce, tourism, public institutions, etc.) in urban and rural areas. The amount of such type of waste currently exceeds 5 million tons per year. Determined measures are necessary in order to improve the management of the following fundamental processes: sorting and primary storage, collection, transportation and final storage, the selection of the best waste processing technologies to meet economical and ecological criteria, depending on the quantity and physicochemical content of waste.

Under these circumstances, in crowded urban areas (over 200,000 inhabitants) solid waste should be primarily used for the generation of power (by incineration), recycled, or both. In Romania there are no incinerators with power generation installations, but only a few small incinerators (with capacities of up to 0.5 tons per hour) without power generation potential, while in developed countries almost 60% of urban waste is used for the generation of power.

For small urban rural settings, ecological waste pits with anaerobic fermentation are economically the best solution. In 1999, only one ecological pit was in use in the city of Constanta.

? Dangerous and radioactive wastes pose special problems, since they expose population to risks that involve high protection costs. In Romania there are no systematic, accurate and comprehensive records regarding the exact amount of the various types of dangerous waste and storage spaces, nor are there records regarding the costs and annual expenses for their neutralisation and the decontamination of affected areas.

The management of radioactive waste resulted in the process of extracting the uranium ore -- the sterile rock which contains natural radioisotopes – the management of waste produced by the nuclear power station Cernavoda and by the installations for the production and research of radioactive isotopes, are major problems for Romania.

Guidelines for actions and measures

? Drawing up a strategy and a national programme for the improvement of waste management, as well as programmes for the local public administration that should contain the main activities, competencies, and responsibilities in the minimisation of waste, but also in increasing the degree of recovery;
? Completing the legal framework and local regulations (especially in cities) regarding the management of all categories of waste (norms, rights, responsibilities, restrictions, instruments and mechanisms to stimulate or impose constraints, etc.) that should be harmonised with the norms and regulations that already exist in the European Union;
? Optimising partnerships between recycling firms and local public administrations;
? Creating selective collection networks, utilisation of recyclable waste, involving public administration in these activities;
? Stimulating domestic producers, by using financial and economic means, to supply installations, equipment, and accessories that are necessary for the recycling industry (this includes co-operation with foreign companies); discouraging the export of certain valuable secondary materials (waste from non-ferrous materials and metal scrap, etc.);
? Stimulating the production of goods and packaging that generate only small amounts of waste;
? Drawing up an inventory of dangerous waste materials and contaminated areas, evaluating their potential risk, estimating the decontamination costs and finding possible funding sources;
? Creating a network for the monitoring of toxic and radioactive waste and finding technical and financial refundable or non-refundable resources for the proper monitoring and management of waste;
? Establishing a more efficient system of world-wide distribution of information and experience in the field of clean technologies;

? Education of the public in order to increase social and individual responsibility;
? Motivating and involving the public in decision-making on the reduction and recycling of waste.

5.11 Financial services

Reforming institutions on the financial market has been a main component of the activity of the executive and legislative branch during the past 9 years. The dynamic changes in this sector enjoyed political support, even though some of the measures did not have positive effects and were not evaluated beforehand from the perspective of the effects that they might induce.

5.11.1 The banking system

The banking system has gone through rapid changes during the past nine years, the current number of commercial banks being 45, out of which Romanian companies own 36, and 9 are branches of foreign banks. Apart from the commercial banks, other institutions are active in the banking sector as well: the Savings Bank (CEC), as a bank for deposits and credit, mainly for natural persons, which was reorganised as a publicly owned bank, EXIMBANK and several co-operative banks.

a1) Banking and supervising settlements

Banking activities are regulated by the Banking Law No. 58 / 1998, and the establishment of banks by the revised Law No. 31 / 1991 on commercial enterprises. The banking laws stipulate that all commercial banks must be authorised and registered by the National Bank.

Commercial banks must have the possibility to engage in banking operations, including: operation of deposits, lending, emitting collateral, bonds, and other financial instruments, deposit and intermediary services, and consulting services. Commercial banks also have the ability to lend and market foreign currency and can be members of the Stock Exchange Association. The National Bank supervises and authorises all the commercial banks and has the right to issue regulations that will ensure the financial balance of commercial banks, including: establishing the level of registered capital of the commercial banks, establishing margins for the credit risk exposure, financial reporting, management and control of foreign currency sources.

The National Bank has the authority to closing entries and other documents of commercial banks with the objective of fulfilling its supervising role. The policy of the National Bank is to inspect each commercial bank at least once a year or even more often if irregularities are identified. If banking rules are broken, the National Bank can impose penalties that can consist of a written notice or can consist of fines of up to 1% of the bank's underwritten capital.

a2) Minimum reserve requirements

Minimum reserve requirements are a tool for the control of monetary supply. Many banks found it difficult to adapt to the new restrictions imposed by the new regulation regarding the minimum reserve requirements.

a3) Minimum capital reserves for the covering of the risk of credits

Banks are obliged to maintain in their accounts opened with the National Bank of Romania (NBR) the established level of the minimum reserves as a daily average for the period of application. On March 15, 1999 the National Bank of Romania established the minimum limit of social capital of a bank at 100 billion Lei (approximately $641,000 at the exchange rate of May 1999). The interest rate paid on the required minimum reserves, due in the month of May 1999 (application period) were:

? 8.5% for minimum reserves requirement in Lei
? 3.15% for minimum reserve requirements in US$.

a4) The minimum reserve fund

According to the banking law, each Romanian bank must establish a general reserve in order to cover credit risks. As of January 1, 1995, the National Bank adopted specific rules regarding the increase of the general reserve to 2% of the balance of existing credits at the end of each year. With the approval of the Administration Council of the bank, the general reserve must be used exclusively in order to cover losses that could occur as a result of the contraction of existing credits. Only after this can the general reserve be used for other re-covering measures such as credits and various losses.

a5) Classification of credits

In 1994, the National Bank adopted specific rules regarding the classification of credits given by Romanian banks. Risk provisions for each class of credit were also established.

a6.) Liquidation

As an addition to Law No. 64/1995 on bankruptcy, regarding to reorganisation and liquidation of enterprises, banks are subject to Law No. 83/1998 in case they are in a state of insolvency. A bank is considered in a state of insolvency if one of the following situations apply: the bank entered into cessation of payments for at least 30 days, or the value of the bank's obligations exceeds the value of its assets.

b) Privatisation of banks

As a result of the fact that commercial banks play an important role in the economy, but also for political reasons, the government has decided that the privatisation of banks should take place under a different set of rules than the privatisation of industrial or commercial companies. Thus, in April 1997 (Law No. 83) the Parliament adopted the law for the privatisation of the banks in which the state is a shareholder.

The law requires that all privatisation actions in the banking sector should be preceded by the evaluation of a consulting firm, according to international standards. It also requires that no investor can own more than 20% of a bank's capital, with the exception of reputable financial institutions. The law does not clarify what the expression "reputable financial institutions" signifies, but leaves one to understand that foreign banks are acceptable. Consequently, the law forbids access of private persons or commercial companies at a level higher than 20% of the total shares with voting rights, issued by a bank that is being privatised. The law also requires that a commission established by the government should prepare the privatisation of a bank. The representatives of the State Ownership Fund, Romanian Development Agency, and the National Bank of Romania should be on this commission. Law No. 83/1997 is completed, as the case may be, with a Government Ordinance that regulates the establishment of the Agency for the Recovery of Banking Assets.

Up to now, on the basis of Law no. 83 /1997, the Romanian Bank for Development was privatised, and Societé Générale became the main shareholder (51% of the capital of RBD). The value of this transaction was $200 million. The privatisation of Bank Post took place in April 1999, based on the same law. General Electric Capital Corporation and Banco Portugues de Investimento acquired 45% of the bank's shares and paid $42,8 million.

During 1999 it is possible that the Romanian government will privatise BANCOREX. The value of this transaction is estimated at 700 billion lei, after subtracting the social capital.

c) Developing a system for the deposit insurance

In 1996, by Government Ordinance No. 39, the fund for the deposit insurance in the banking system was established. The purpose is to guarantee the reimbursement of deposits made at banks by small depositors for the event of bank failure.

On February 5th 1999, the fund for deposit insurance in the banking system announced that the ceiling of the deposit insurance was set at 35,362,000 Lei for each depositor (this limit is indexed according to the consumer price index.). This limit is valid for the first semester of the year 1999. This system does not apply to legal persons.

d) Funds for credit insurance

The Romanian Fund for Credit Insurance and the Rural Fund for the Credit Insurance are financial institutions that, as a third party guarantor, support commercial companies by insuring loans contracted through banks. The existing funds insure up to 70% of the value of any credit, providing an insurance/contract letter for the client's security.

The system of funds for the credit insurance was established in 1992, by the establishment of the Romanian Fund for Credit Insurance, and the Rural Fund for Credit Insurance. However the activity of funds was legally settled only through the Government Ordinance No. 23 / 1999. Until June 1999, 4 funds for the insurance of credits were active in Romania: the Romanian Fund for Credit Insurance, the Rural Fund for Credit Insurance, the North-East Fund for Credit Insurance, and the South-East Fund for Credit Insurance. The system of credit insurance funds is not actually part of the banking system structure, but contributes to the extension of the network of clients of banks through the services it offers. Unfortunately, the system may be compromised by the amendments proposed by the Senate and the Chamber of Deputies to the Law for the Stimulation of the SMMEs. These amendments stipulate the establishment of a state fund for credit insurance. It must be mentioned that in the E.U. countries a preliminary form of this system appeared as early as 1917 and it was extended in the 1950s.

e) Foreign currency and the convertibility of the Romanian Leu

Foreign currency operations in the current funds are not regulated by the National Bank, but must take place in conformity with international regulations, foreign currency norms, and regulations established by the National Bank. Foreign currency operations in connection with capital accounts must be authorised by the National Bank's Department for Foreign Currency Control. Resident corporate bodies (others than the banking companies authorised to carry out foreign exchange operations) must obtain authorisation to hold and use funds found in banking accounts. Non-residents can repatriate profits and capital obtained from direct investments. The fact that, according to foreign exchange norms issued by the National Bank of Romania, banks can carry out foreign exchange operations in connection with capital accounts without any kind of restrictions, must be highlighted.

f) The financial situation of banks

Some commercial banks, especially those controlled by the state, were forced by political circumstances to lend money in the period 1991-1996 to big, state-owned enterprises, which violated the principle of autonomy and, implicitly, the provisions of Law No. 31/1990 on commercial companies.

As a result, BANCOREX and the Agricultural Bank, for instance, went through major financial difficulties and the government was forced to take over some of their non-performing loans and finance them. However, the Agricultural Bank was able to recover financially, thanks to a restructuring programme agreed by NBR with the Bank of Ireland.

The situation of the banking sector by mid-1999 shows that in spite of a rather strict financial discipline in the banking sector, there are still non-performing loans which were granted by state-controlled banks or private banks: BANCOREX, Agricultural Bank, "Albina" Bank, Bank-Coop, Column, Dacia Felix, and Credit Bank. The situation can be explained by the lack of correlation between macro-stabilisation policies adopted by the National Bank of Romania, and the structural adjustment policies adopted by the government in the periods 1991-1992, 1995-1996 and in 1998. The situation can also be explained by the incomplete and flawed regulations issued by NBR until 1997, regarding the compliance of commercial banks with certain strict cautionary rules. Moreover, there were instances when the NBR financed banks encountering financial difficulties, like Dacia Felix Bank and these measures accentuated the fragility of the banking system.

On the whole, not counting the banks facing financial difficulties, the proportion of non-performing bans of the total loans does not exceed 30% and does not lie below 20% of total assets. However, their proportion could increase as the maturity date approaches and the measures for the strengthening of financial discipline at the level of enterprises are not intensified. It is also possible that the lack of correlation between structural adjustment measures and macro-stabilisation measures will determine an increase of non-performing loans and bad debts. Implicitly, this will cause an increase in the fragility of the banking system. In this context, it must be mentioned that, within the past few years, many performing credits became non-performing due to the spectacular increase of the interest rates. As a result, commercial companies started to unjustly criticise commercial banks, even though the increase of interest rates was an effect of the belated application of certain structural adjustment measures in the economy.

The initiative of the executive branch to establish a specialised institution, named "Agency for the Capitalisation of Banking Assets" (ACAB), for the redeeming of non-performing loans, should be mentioned in this context. Since the government has not yet found a good creditor and the redeeming system is not based on mechanisms of private law, there are doubts about the accomplishments of this institution. It must also be mentioned that the Czech government set up a similar state bank for the redeeming of non-performing loans in 1991 without any positive results. It must be added that the other efficient mechanisms for the restructuring of the portfolio of non-performing loans, (regulated by the Government Ordinance No 9/1998 on the restructuring funds) or the mechanisms meant to help restructuring the budget debt portfolio, with favourable effects on the relation between banks and commercial companies (see Government Ordinance no. 15/1998), are not used. As a result, the measures adopted by the government, intended to financially support failing banks and restructure enterprises, are viewed sequentially, and laws are applied separately.

It is expected that the restructuring and privatisation of the state-owned banks agreed upon jointly by the government and the IBRD could solve these problems by June 2000.

5.11.2 Insurance market

In Romania, the insurance market is regulated by 2 normative documents that, theoretically, ensure the compatibility of the system with the E.U. norms.

In Romania, there are over 30 active insurance companies. Two state-controlled companies dominate the life insurance market and automobile insurance market. Foreign companies offer other insurance services.

Generally speaking though, the insurance market is not yet well developed. This is due, on the one hand, to the population's low level of savings, and on the other to the lack of knowledge of the advantages offered by insurance services.

5.11.3. Securities Market

In Romania, the stock market was created in 3 stages. Starting in 1993, the organisation and functioning of investment funds was regulated through a governmental ordinance. In 1994 and 1995 the stock market and the stock exchange OTC were also regulated.

According to the current legislation, the stock market, as well as the functioning of regulated markets, depends on the National Securities Commission (CNVM) that is responsible for its regulation and supervision.

From an institutional point of view, the capital market in Romania is considered one of the markets with the best structures in Eastern and Central Europe, but overall, this market has not had a constant, positive evolution. This is due to the fragility of the banking sector which is still isolated from the economy and the stock market, to the restrictions imposed by the NBR on the access of foreign investment banks on the state bonds market and to the secondary market, to the limited access to information, and to the management that has not been adapted yet for a market economy. At the same time, the stock market was permanently affected by the legal system (fiscal regulations, accounting system, the system for the repayment of investments, and others) that is confusing and inadequate for this sector, as well as the government's reticence to privatise the enterprises by means of the Bucharest Stock Exchange (BSE) or RASDAQ capital market, as a way to support these markets and increase liquidity. The scandals regarding the way, in which transactions were traded with registration at the Romanian Register of Shareholders, shook seriously the investors' confidence.

Moreover, the unsatisfactory development involvement of institutional investors (mutual funds, insurance companies, pension funds, banks etc.) in the capital market, did not allow this market to develop. Although the mutual funds seem to have overcome the 1996 crisis and are now more profitable than other types of investments, do not exceed 150 billion Lei, their net asset value at the end of May 1999. A single fund, the National Investment Fund, owns 80% of the market. The products of the insurance companies that have an impact on the capital market (funds with capitalisation in investment funds) are also in their infancy. In 1998 and the first half of 1999, the development of the stock market fluctuated, without being able to halt the long-term downward trend.

This lack of attractiveness of the capital market was concurrent with the international financial crisis and the state's negligence to list the most attractive companies at the stock exchange.

Market liquidity has decreased slowly but continuously, and value of the shares dropped, especially after certain foreign portfolio investors had left the market. The main market players were those investors that sought to strengthen their position by becoming major shareholders. At the end of 1998, the BET index of BSE were 377.7 points, which reveals a drop of 50.2% as compared to December 1997, even though the number of registered companies increased by 51%. A reduction of transactions by 46.3% was registered between 1997-1998, mainly due to a decline in prices. The accumulations at the stock exchange of 3,922.5 billion Lei at the end of December 1998 was with 22.4% lower than that of the previous year, and during those two years the contribution to GDP decreased from 2.02% in 1997 to 1.2% in 1998. During the same period, the average value per transaction decreased by 28.8%. Since the criteria for quotation at the stock exchange were not reached, a number of commercial companies that were facing financial difficulties were withdrawn temporarily or permanently from the market.

In 1998 and during the first half of 1999, the index was lower on the RASDAQ capital market, too (even though the number of companies increased), and the average value of transactions decreased.

The activity of privatisation performed by the State Ownership Fund (FPS) represented a particular segment of the capital market. During the last half of 1998 and the first half of 1999, an increased number of companies were privatised, the earnings form the sale of shares increased. At the same time, a larger number of techniques and methods were used in privatising enterprises, including via BSE, RASDAQ or foreign investment banks. Still, the number of commercial companies privatised through the Bucharest Stock Exchange and RASDQ was comparatively low (9% of the total privatised capital in 1998). The FPS focused on the sale of residual packages of shares, of shares issued by commercial companies with financial problems or issued by companies with a low social capital. Because of this, the attractiveness and liquidity of the market could not increase during 1998, with the situation remaining the same 1999.

The latest changes brought to the privatisation legislation, particularly the introduction of a minimum quotation price for the sale of all shares affect the activities of BSE and RASDAQ even more seriously. Since the State Ownership Fund owns, on behalf of the government, shares in a large number of commercial companies listed at the Bucharest Stock Exchange or RASDAQ, discrepancies will emerge

between their quotation on the market and the price determined by State Ownership Fund and other public institutions involved. Under these circumstances, privatisation of almost all companies will take place by lowering the quotation and this measure will have a negative impact on the liquidity of the market.

The contribution of the market for negotiable financial securities to ensure the necessary premises for sustainable development in Romania is indisputable. In essence, it ensures the free movement of capital, which means attracting funds from the international private capital market to portfolio and direct investments, having in view that both are correlated. Under these circumstances, the stock market can only develop if the government and the NBR co-ordinate their policies in order to liberalise the market for state bonds, change the managerial privatisation system, and introduce a coherent, stable and stimulating fiscal system.

Guidelines for action and measures

- Diversifying investment instruments on the capital market: shares, bonds, state deeds, etc.;
- Creating the necessary mechanisms for a functioning market covering the risks: futures and options with basic assets (interest rates, foreign currency, stock exchange indicators) that will allow investors to cover risks for the positions taken on the spot market;
- Providing more reliable and timely information for the investors on the capital market through:
  - Strict regulations regarding the publication of information by issuers of shares, regarding their current activity and events that could lead to changes in the investors' attitude towards a particular share;
  - Regulatory bodies should create databases with data regarding issuers, easily accessible to all investors;
  - Gradual adoption of a system for reporting the results of issuers' activities according to international accounting norms (IAN) used by European stock exchanges, that will enable the correlation and compatibility of market quotations with the results of issuers for domestic and foreign investors.
- Improving the legislation in order to ensure the development of institutional investors, investment funds, pension funds, insurance companies, etc., the only players capable to help create a sustained development of the capital market.

CHAPTER 6

Evaluation and Development of the Social Capital

6.1 Population and Human Development

The demographic situation

Political, economic and social changes after 1989 have noticeably affected and continue to affect Romania's demographic situation in all its segments. One could identify the changes that would have happened irrespective of the new economic context and also developments in the period 1990-1997 whose origin and mechanism may be found in the deep-going crisis facing the country.

From 1990 to 1997, the population of Romania fell approx. 350,000 (1.5%). From the census of January 7, 1992, to January 1, 1998, the population fell by 284,000. This is not a dramatic decrease and there is no reason to believe that the decline should be cause of concern. There are, however, some aspects and consequences that cannot be ignored. Had the decline in population been caused only by lower birth rates, its evolution could have been considered positive from an economic point of view, as a wide range of spending usually undertaken by parents and society during the pregnancy period, birth, maternity, child care, etc., might have decreased considerably. Actually, the population decline is caused by the bad state of public health and increased death rate, a negative development that worsened the negative situation that began well before 1990.

A period of eight years' decline in birth rates means as many less numerous generations at the bottom of the age pyramid. In fact, one should have in view an additional number of such generations, because under no circumstances will a substantial rise in the birth rate on short and medium term be expected. No matter what the economic context of the next years will be like, one has to consider the inertia of demographic phenomena and the complexity of the mechanisms at work.

There is definitely an economical and a demographic cost of transition. The demographic cost is almost imperceptible for present generations. However, future generations will acknowledge it, when the serious demographic imbalances produced after 1989 will have negative social and economic effects.

If Romanian demography had the characteristics of developed countries, non-intervention of the state would be a normal and reasonable attitude. Romania is not, however, in such a situation. On the contrary, Romania's demography is declining and the deterioration will leave deep marks even after a cure is found. It is impossible to imagine real sustainable development in the country without eliminating the demographic crisis that affects it. This elimination presupposes an end to the economic decline, an improvement and a firmly established pace of progress. Such an economic evolution will automatically bring about a better demographic situation. Both major components in the evolution of the population - birth rate and the death rate - should react positively to an economic context totally different from the present one. The more sensitive of the two will be the death rate, where the reserves are considerable. A lower death rate will surely be less perceptible at the level of the net death rate, because - no matter how positive the evolution of the two components will be - the process of ageing will continue its course and leave its imprint on the value of this net indicator. The positive effects that the socio-economy has on the death rate will be perceived first in the death rate for different age groups, and especially, at the level of life expectancy, where the differences between developed countries and Romania will appear in their true light. The impact on the birth rate of an economic context different from the present one is more complex. The factors adversely influencing the birth rate existed ever since the 1960s. Their effects were obscured, more or less, by the pro-natal policy imposed by the old regime. The promptness with which the decline appeared in 1990 is significant in this respect. The post 1992 economic crisis heightened these downward tendencies.

Accepting the claim that positive demographic effects can be brought about by economic redress and stable economic progress, on long term perspective one can conceive the following situation: a continuation in the natural decline; reaching a balance between birth rate and death rate (zero natural growth); return to demographic growth. What significance do these three situations have from the sustainable development perspective?

A further decline in population will result from a higher net death rate as compared to the net birth rate, even though the values of the two components would be different. However, the net death rate will, in this case, result from changes in the age structure (accentuation of ageing) and will not be the result of the state of public health. Life expectancy will definitely be higher than it is now. In other words, the continuation of natural population decrease will be qualitatively different from the current one. The

population decline will continue and the main question will be **what kind of population will Romania need in future.**

If it is thought that a smaller population is better for sustainable development under all aspects, intervention from the state in order to influence the evolution of the two variables will not be mandatory. However, investment to improve human capital will be necessary. If we adopt such a decision, we shall notice that it implies a certain option regarding population numbers: the decrease we accept cannot continue forever as, according to logic, there has to be a limit. We thus reach the issue of the demographic optimum in the context of sustainable development.

Table 6.1

Possible characteristics of Romanian population for a stationary situation (on very long term), for an upward tendency and for the case where mortality, fertility, and emigration are maintained at their 1996 level

Year	Pop. thousand	GNR - at 1,000 inh. -	GMR - at 1,000 inh. -	NGR - at 1,000 inh. -	TFR for 1 woman	E(0) Men	E(0) Women	Pop. 60+ - in % -	DR
"BALANCE" version									
1996	22,608	10.2	12.7	-2.5	1.30	65.1	72.8	17.7	47.4
2000	22,396	12.1	12.3	-0.2	1.50	66.5	73.5	18.7	46.4
2010	22,682	14.8	11.8	3.0	2.07	70.0	76.0	19.0	47.7
2020	23,014	11.4	10.9	0.5	2.07	73.0	79.0	21.7	54.4
Stationary stage	23,900	11.9	11.9	0.0	2.07	76.6	82.4	29.8	70.2
"GROWTH" version									
1996	22,608	10.2	12.7	-2.5	1.30	65.1	72.8	17.7	47.4
2000	22,394	12.1	12.3	-0.2	1.50	66.5	73.5	18.7	46.4
2010	22,874	16.3	11.7	4.6	2.30	70.0	76.0	18.8	49.0
2020	23,534	12.5	10.6	1.9	2.30	73.0	79.0	21.2	57.4
"REFERENCE" version									
1996	22,608	10.2	12.7	-2.5	1.30	65.1	72.8	17.7	47.4
2000	22,309	10.5	13.1	-2.6	1.30	65.1	72.8	18.7	45.6
2010	21,308	9.8	14.8	-5.0	1.30	65.1	72.8	19.0	41.0
2020	19,764	7.8	15.9	-8.1	1.30	65.1	72.8	21.6	41.5

GNR = gross natality rate; GMR = gross mortality rate; NGR = natural growth rate

TFR = total fertility rate; E(0) = life expectancy at birth

DR = dependence ratio (0-14 yrs + 65 yrs and over for 100 persons between 15 and 64 years of age)

Source: Ghetau, 1998.

The second scenario, with zero demographic growth that results from parallel positive situation in the death and birth rates under the impact of development, seems more attractive. Firstly, such a state presupposes positive effects brought about by the socio-economic domain on the birth and death rates. Then, one will also have to answer one fundamental question. What is more desirable: an unchanging or a growing population? The idea of a lower figure than that reached in a "natural" way with regard to population is excluded, as one may clearly see. Reaching the stationary state will imply a close survey of the two components and maintaining them at almost identical values, which is not an easy thing.

To have an increase in population measures to stimulate the birth rate are needed so as to make it exceed the death rate or the mortality can be diminished in order to obtain the same result. Alternatively, both variables could be altered. In any case, the means can only be economic. Apart from the costs, the effects on age structure must also be considered. In any case, the scenario regarding the return to a

growing population as the result of economic redress, progress and sustained growth seems the least probable.

At present, we do not see any advantage in population growth. From whichever perspective we consider the situation, a stationary population can be best on the long term. Anyway, any human population living in a limited territory will have to stop growing at some point and we believe there are only advantages in reaching such a situation as soon as possible. The population density in Romania, 95 per square kilometre (National Commission for Statistics, 1998), is higher than the European average, 32 in 1995, but lower than that in South and Western European (UN, 1997). The relation between population, environment, and limited resources can be preserved easily, improved, and transmitted to future generations if population density remains unchanged, under the condition that the damages caused by pollution in some regions will be neutralised (obviously at an enormous price).

Preserving the present state of affairs -- the "REFERENCE" version -- leads to an evolution of the population which does not favour sustainable development.

A parallel between “BALANCE” and “GROWTH” does not reveal the significant structural advantages of the latter. The degree of ageing is slightly higher in the “BALANCE” case, but it is compensated by a better dependency ratio.

Attaining a stationary situation is not a medium term matter, but a long and very long-term problem. The distortions in the age pyramid will affect the dimension of the demographic fluctuations for a long time, especially the births and deaths. It is essential to tend towards such a population (stationary) by making sure that fertility remains at a strictly replacement level (2.07 children per woman) and that it is constant in time. In the context of a stationary population, the quality of life will be prioritised (public health, education level). In this case, the state intervention is desirable through social, health, educational, and demographic policies.

In the European context, Romania is a country with a medium population density. Territorial disparities in density should not constitute reason for concern with regard to a sustainable development. The changes that might appear in the territorial distribution will be natural consequences of economic development manifested differently in each region. Possible worrying regional demographic imbalances will be rectified through adequate economic levers, especially by differentiated fiscal policies.

The developed European countries did not adopt policies that aimed at shaping their demography according to economic requirements, with the exception France, probably. However, they used selective immigration policies in order to cover the needed labour force during the rapid economic growth period in the post war era. On long term, though, these policies created complex and sensitive circumstances, for example, in Germany and France. Romania would not be able to consider such an alternative, even if the economy required it. Sustainable development should be conceived and realised so as the population dimension may be considered an exogenous variable. However, this should not apply to population quality, and investment in the human capital should take precedence. Romania's sustainable development cannot have a more important final aim than the creation of a higher standard of living for the population and the next generations, whilst of course maintaining the man-nature balance. In our opinion, a stationary population is the best answer to the requirements of sustainable development.

6.2 The State of Public Health

The present state of public health in Romania is the result of its evolution in the past 50 years. After 1955, a continuous improvement in the state of health was noticeable until the 70s, followed by a stagnation or fall in the main indicators used for the evaluation of the state of public health.

The response of public health to the socio-economic conditions represents a long-term effect caused by complex interaction between direct and indirect determinants. In addition to the effects on the state of public health caused by the very harsh living conditions in the years prior to the transition period, there is the effect of the difficulties related to the economic and social and material constraints generated by the changes in the system. After 1989, the following factors contributed to the degradation of health:

? Decrease in net family income, causing an increase in number of families living under the poverty threshold;
? The unbalanced structure of the family budget, i.e. spending more and more on food and less on services and durable goods;
? Stress, low standard of living, unemployment, social insecurity, increased incidence among the population of cases of unhealthy way of life (alcohol consumption, smoking, drug addiction and dependence, etc.);
? Slow reform of health services, insufficient, permissive, incomplete legislation;
? Decrease real spending for health services by the state or the patient.

Life expectancy at birth (Table 6.2), synthetic indicator of the state of public health, dropped after 1989, to 68.95 years in 1995-1997; as compared to developed countries, Romania has values 6-7 times smaller.

Table 6.2

State of health indicators

Indicator	Years					
	1970	**1980**	**1989**	**1995**	**1997**	**1998**
Life expectancy at birth - total yrs	67.3		69,7	68,95		
men	65.1		66,6	65,19		
women	69.5		71,7	73		
General mortality rate (‰)	9.5	10.4	10.7	12.0	12,4	12
Infant mortality rate (‰)	49.4	29.3	26.9	21.2	22,3	20,5
Maternal mortality rate for (‰) infants	1.2	1.3	1.7	0.5	0,4	0,4

Source: the Sanitary Statistic Yearbook. Ed. 1998

The fall was caused by the decrease of life expectancy for men, whilst for women, the indicator remained the same or rose slightly. In the rural areas, life expectancy is lower than in urban regions, being 67.8 years in 1997. The decreasing tendency of life expectancy in rural areas has been slightly stronger than in urban areas (loss of 0.86 years in rural areas and 0.70 years in urban areas, in the period 1994-1996, as compared to the period 1990-1992).

Amongst European countries, Romania continues to have some of the highest rates in **infant mortality**, reaching the 20.5% mark in 1998 for live births, which declined as compared to 1997 (22%). Over 60% of the total number of deaths during the first year of life occur in the post-neonatal period (1-11 months). The post-neonatal death rate in rural areas is 1.5 higher as that in the urban areas. The main causes of death are diseases of the respiratory tract (pneumonia and bronchi-pneumonia) followed by morbidity causes, perinatal death, and malformations.

Better pre-natal and perinatal care, better assistance during birth, together with an improvement of the socio-economic conditions, and public education are factors that can contribute to a drop in the rate of infant death.

Professionals consider that 18-20% of all pathology can be attributed to the damaging influence of environmental factors on the population. Consequently, the environmental factors can determine the level of mortality, but especially the specific death rate through infectious and parasitic illnesses, tumours of the respiratory tract, accidents and traumas.

Beginning in 1966, we can see a continuous rise in the **gross mortality rate** as a result of ageing and continuous degradation of health.

Romania is amongst the European countries with the highest death rate. The death rate in the rural areas is higher than in urban areas (by 60% in 1998). The accelerated increase in mortality in the rural areas led to a wider gap between the rural and urban areas.

The most important **causes of mortality** in Romania in 1998 were heart diseases (61.8% of the total deaths), followed by tumours (14.6%) accidents and traumas (6.3%), digestive illnesses (6%) and respiratory diseases. In 1998, there was a change in the death cause statistics: respiratory diseases fell to the fifth place, similar to western countries. Of the total of deaths, 18% could have been avoided, according to the National Commission for Statistics.

Natural growth, directly dependent on the general mortality and birth rate, rose in 1998 as compared to 1997, from -1.9%o to -1.5%o, but remained negative. The smallest natural growth was in 1996, -2.5%o.

The loss of years of life through premature deaths (up to 65) is increasing. In 1996 1,703,000 life years were prematurely lost, 51.2% in rural areas and 48.8% in urban areas. In the country, unlike in towns, respiratory diseases (especially acute ones) are the main cause of death. (Table 6.3)

Table 6.3

Life loss causes

Diseases groups	APVP		DALY	
	Number	%	Number	%
Heart diseases	342,702	20.15	1,311,125	33.32
Cancer	240,250	14.11	500,717	11.04
Respiratory	219,210	12.88	197,577	4.36
Accidents	357,782	21.02	495,697	10.93
Diarrhoeic diseases	…….	…….	11,916	0.26
Chronic respiratory diseases	…….	…….	97,736	2.15
Tuberculosis	45,117	2.65	49,516	1.09
Mental diseases	26,702	1.57	230,407	5.08
Other causes	470,109	27.62	1,441,032	31.77
Total	1,701,872	100.00	4,535,723	100.0

APVP = potential lost life years (death before 65);
Source: Public Health Institute Bucharest, 1997
DALY =adjusted years for incapacity following accidents or disease;
Source: Management Institute for Health Services, Bucharest, 1997

The main aspects concerning **morbidity** are:

- High **incidence of tuberculosis**, from 51.2 new cases/100,000 in 1986 to 95.8 in 1997; 26.3 per 100,000 for the age group of 0-14. Of the total deaths through transmissible diseases, 6.7% were caused by tuberculosis. Between 1989 and 1998, the number of tuberculosis cases tripled, especially among children.
- Increased incidence of **AIDS** cases. In time, the contagious aspect changed, adults being more frequently affected after 1992. Romania continues to be a country with a high number of infected children.
- In the first trimester of 1998, 273 new AIDS cases were reported, 70% of the children. Increased incidence of syphilis cases, from 23.2 cases/100,000 in 1990, to 34.2 in 1998.

The model of **disease prevalence** (frequency of the new and old cases in a population) indicates an increase in degenerative diseases, with multiple-factor aetiology, many of them referring to the life style. The main chronic diseases reported for the population of 15 and older in 1997 were circulatory, digestive, rheumatic, metabolic, nutrition, and genital disorders and conditions.

Life style. The survey in June 1994, realised through interviews by the Sanitary Statistics Center, indicated that 36% of the interviewed persons smoked. The maximum frequency is met in persons between 25-44 years of age (both men and women). 56% of the interviewed people admitted to consuming alcohol (37% occasionally).

Professional diseases. In Romania, one third of the average number of employed people are exposes to one or more noxious substances at their place of work, but this data is inconclusive for the present period, when rapid changes occur in economy.

An alarming fact is the exposure of more than 24.97% of these employed people to noxious substances whose level is above that admissible by law.

Up to a certain extent, this situation contributes to low life expectancy in Romania (life expectancy at birth and at various ages). Exposure to noxious substances with higher concentrations has a direct effect on the body and an indirect action upon the conception of pregnant women who work in such conditions.

Working in places where there are emissions of noxious substances can adversely affect the state of public health, through their specific action. They can also cause serious general diseases, multiple-factor illnesses, where the professional component is connected with other causes - known or unknown-profession-related illnesses.

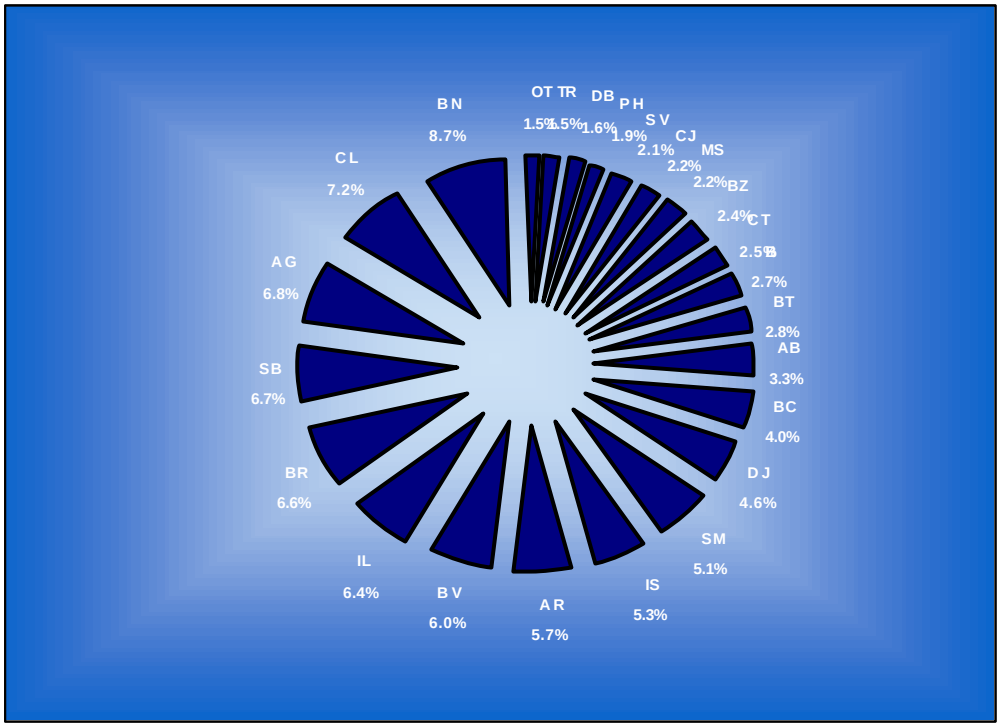
The analysis of distribution of diseases according to the industrial branches shows that most of the cases of professional diseases are reported in the mining industry (542 cases), machine building industry (502) and metallurgy (242).

The situation of the professional diseases in Romania shows an image regarding the “classical” diseases, well defined and known as regards the average factor of risk in the relation working conditions and illness.

At international level, the classical picture is changing, because of improved working conditions, counteracted, on the other hand, by risks run in using modern technologies and the stress caused by new responsibilities, competition, uncertainty of employment, all of which can start a series of pre-existent diseases, threatening the employees' health.

The situation regarding the professional diseases in different departments (counties) of Romania, as reported in 1998, is presented in Fig. 6.1.

Fig. 6.1 Professional disease incidence at departmental level



Source:The Health Service Mngement Bucuresti, 1997

Territorial disparities are indicative of the existing differences between various production branches and the aggressiveness of risk factors, which are often beyond admissible limits.
The rather wide variations can be explained as follows:

? There are differences in the degree of industrialisation among departments;
? Specific features of the branches and types of industry in each department;
? Insufficient number of doctors with specific expertise in medicine at national level.

In a context of rapid economic changes, it has become increasingly difficult to keep correct records regarding the employees who are exposed to noxious substances at their place of work.

The Health System

Like all the Central and Eastern European countries, Romania developed a state-financed health system after Second World War, with public units offering health services and competent medical personnel.

Economic decline lead to chronic under-funding of the health system. In addition to this, the majority of the medical-sanitary units had very low internal efficiency.

The supply of medical service ranks Romania among the last in Europe, with significant differences between the urban and rural areas. Primary medical service (in polyclinics and village surgeries) availability per person is declining while the need for more complex services is increasing, despite higher costs. This situation was caused by the lack of trained staff and poor equipment held by the health units. Although in the 1991-1992 period the decrease in the number of hospital beds was of over 30.000, the bed occupancy indices are low, showing inefficient management.

After 1989, the following changes took place:

? Decreased access to medical services caused by the increased number of people who go to a GP, especially in rural areas, and also by the increased number of unstaffed village health units;
? Continuous degradation of the public medical services, as a consequence of the low level of funding, lack of competition, lack of incentives, both moral and material, as well as lack of interest on the part of all classes of health workers.
? Medical training is oriented towards professional interest, in complete ignorance of the community needs;
? Unbalanced structure of medical services: preventive rehabilitation medicine is neglected as compared to curative services;
? Appearance of a private health system, private chemists represented an important step towards the improvement of the medical care, but the accessibility to this kind of services is, however, limited.

An analysis of the influence of GDP growth on health spending shows there are no substantial differences between the amounts spent by small and medium revenue countries and he percentage

allocated for health increases only when the GDP reaches a certain value, a fact proved in the well developed countries. ($7000-8000 per inhabitant.)

Strategy. The aim of the strategy is to grant everyone his fundamental right to health.

The **objectives of the strategy are:** access to health services, increase in life expectancy, improvement of life quality, decrease of morbidity, and efficiency of the sanitary system.

The steps necessary to reach the objectives refer to the health system and the factors determining the state of health:

- Speeding up the health reform, decentralising decisions, use of funds;
- Harmonisation of national with the EU legislation;
- Reduction/elimination of geographical and financial inequities connected to the health services; involving the community in attracting and establishing doctors locally, attraction of financial sources for the system at a local level (by sponsoring actions and activities carried out by non-governmental organisations);
- Resolving national priorities: heart diseases, oncology illnesses, accidents, organ transplants, intensive and supportive care;
- Increasing funds allocated to prevention and rehabilitation;
- Improvement of the medical information system that allows the decision-makers and the public to appreciate risks and health problems, including the evaluation of the treatment they receive;
- Use of adequate instruments in resource management;
- Improvement of survival chances by decreasing infant mortality to 12-15‰, maternal mortality to 0.30‰, increasing life expectancy by 1-2 years; reversing the tendencies in tuberculosis, AIDS, infectious diseases, accidents;
- Promotion of a healthy life style by means of mass-media actions, in school, and at primary medical services, in order to decrease the number of smokers, alcohol consumers, sedentariness and drug abuse, all risk factors for chronic diseases; promotion of healthy nutrition;
- Increasing the percentage of the population (100% in urban and 50% in rural areas) that has access to clean potable water in sufficient quantities.

6.3 Education

6.3.1 Education and public awareness

Training society to follow the path of sustainable development depends on the capacity and ability of all the participants in the process: political and non-political decision-makers, specialists, governmental and non-governmental organisations as well as the general public, to adopt and implement programmes, strategies and action plans based on conceptual models that are specific to sustainable development. To achieve this, a series of criteria must be satisfied, amongst which the following are the most important:

- Public education gives access to information, and enables the public to interpret and correctly understand sustainable development. This allows them to be a part in the decision-making chain;
- Use of professionals for the different sectors of the institutional structure (training and development of human resources).

Transition to a sustainable development presupposes a change in mentality, in the way of thinking about and acting upon the environment. In order to limit human impact so that it does not destabilise the ecosystems (life-supporting systems), it is necessary to prepare the general public for changes that do not necessarily conform to the value system with which they are familiar. It will also be necessary to change personal attitudes and practices. This does not only mean a more sustainable use of resources, but also a change in the economic mechanisms at a national and international level, a change in the policies pursued in trade and inter-state co-operation, in order to bring about a global transition towards sustainable development.

Changes in school and university education:

- Programmes that encourage the development of personality, such as spiritual, ethic, and social education as well as the development of practical, physical, and especially creative capacities, intrinsic to man, who is creative by nature;
- Simultaneously, the formation of an ecological and social awareness must be encouraged, as well as an education leading to solidarity and tolerance towards one's own nation and other peoples;
- Pupils must also learn outside schools. Thus, the net separation between school curriculum and hobbies should disappear, so that music, theatre, painting, handicrafts, together with play may be included in the school education;
- Learning how to think in an interdependent system has to become a priority in education;

? School has to enable students to understand the interests that underlie social and individual conflicts, to resolve personal conflicts, to form their own opinions in a social context, and to express and apply them in the interest of the community;
? Support and development of the universal education of all members of society, irrespective of age.

6.3.2 Environmental education

The present educational system in Romania is characterised by an acute lack of organised, co-ordinated, systematised care for problems connected to the environment. Despite the fact that more is said about the ecological approach in most fields, the specialised literature published in Romania is very scarce.

The possibility to choose between a healthy and clean environment, an informed public, aware of their role in the dynamics of the society on the one hand, and an environment degraded by human activity, inhabited by people who ignore such problems, depends on the modernisation of the Romanian education system.

Surviving in conditions of poverty requires the extensive use of natural resources, starting processes that distort the biological mechanisms and producing a variety of environmental problems. Destruction of the environment diminishes the quality of life and creates a vicious circle between destruction of ecosystems and poverty.

In Romania, this process is maintained and even amplified by the present attitude of the decision-makers and by public opinion towards the relation between man and his environment. The relation between the socio-human system and the natural resources is defined by the following elements:

? The development of the human socio-economic system was and is erroneously based on the principle that the supply capacity and the resources generated by the ecological systems are unlimited.
? It is alleged that the dilution capacity of the atmosphere and the hydrosphere remained very high, just as the retention capacity of sediments and of the soil.

This attitude had consequences in the following fields:

? The transition towards a market economy, as promoted at present by the decision-makers, presupposed the stimulation of consumption and the unrestricted exploitation of resources, as well as the accumulation and storage of waste.
? Privatisation is designed and implemented without a preliminary analysis of the industrial efficiency, its impact on the intensity of material and energy usage, the origin of the raw materials. At the same time, the potential or actual indebtedness of industrial activity towards the environment is not taken into account.
? An unbalanced economical subsystem structure is maintained, dominated by a few industrial sectors, which are predominantly processing raw materials (petrochemical industry, iron and steel industry) or producing goods with a high risk factor (chemical industry, based on old technologies, which consume a large amount of conventional resources). The imbalance is increased by emissions of secondary and by-products, generated in industrial processes, which affect the dilution capacity of the aquatic environment and the troposphere, as well as the retention capacity of the sediments and soil.
? The role played by the scientific basis that allows qualifying different types of ecosystems in Romania, their durable productive and supportive capacity, as well as the shaping and sizing of the activities concerning the use of resources and the services generated according to the latter, is ignored or not understood.
? Concrete actions were almost exclusively limited to registering the negative effects produced by the pressure exerted by human factors and measuring individual releases in the environment.
? Unscientific decisions are made in an attempt to reverse, limit, or prevent ecological damage. These attempts obstruct economic development, and lead to merely curative environment measures, which are limited in space and time, which help diminishing the damage, without, however, eliminating or controlling it.
? The institutions and methods producing and evaluating the environmental factors and the quality of the data have been developing very slowly. The same is true of the transfer of scientific knowledge in the strategies and environment management programmes.
? The technological progress has almost exclusively aimed at obtaining higher and higher performances in substituting the components of the natural capital in natural and quasi-natural regime, and an easier access to resources and their utilisation rate. Technological progress has made the diversification of the range of renewable (including the soil and water) and non-renewable (fossil fuels and mineral ores) resources possible, which determined an increase in the consumption of materials and energy.
? Storing of highly toxic waste and chemical substances in improper conditions, without an evaluation of the impact on the environment and public health. The infrastructure for the safe recycling or storage of waste does not exist.

? The legal framework, as well as the normative and regulating one, concerning the relation between the human-social system and the environment and natural resources, is incomplete, full of contradictions, confusing and non-operational.
? The information, education and the formation of human resources are structured in inefficient forms that are difficult to access.

In this restrictive context, a part of the national natural capital still conserves the heterogeneity, the productive and supportive capacity that can sustain both reform and economic growth. On the other hand, Romania is not and will not be, for one century at least, overpopulated. Thus, the necessity of a healthy economic development, valuable and durable, scientifically based on the sensible administration of natural resources, which allows the preservation of the environment and public health, is a priority.

6.3.3 Professional Training

After 1989, the problem of training professionals in the field of environmental protection arose when the destruction of the environment became publicly known. The true dimensions of pollution, with its serious consequences on biodiversity and public health, were then noticed for the first time. Consequently, a large number of faculties with ecology curricula and sections were created, with a separate course in ecology as an independent subject being introduced in the curriculum of technical and economic universities.

According to some, the decision to create a large number of universities is debatable, regarding both the number of separate ecology faculties, and, in particular, the content of the courses. Here are a few arguments most commonly advanced:

? Pollution is a complex phenomenon and its elimination lies not only in training professionals to combat it, but also in making society aware of its damaging causes and consequences. To this end, it is necessary to use all available means in order to influence and educate the public, first of all the schools, from pre-school to university, irrespective of the type of specialisation. In order to combat "polluting" accidents, a limited number of trained professionals may be sufficient, of course.
? In any enterprise or socio-economic activity, all the personnel, from workers to managers, should promote ecological measures. Those technological processes and activities must be initially brought about by official regulations. It is absolutely necessary to develop clean technologies that use raw material economically and produce harmless waste.
? Good professional training must be perfected and completed through postgraduate and special courses and programmes that should help trainees understand the laws governing the processes induced on the environment by human activities. This means that every university course should include a section on the real or potential impact that the respective professional speciality and activity causes on the environment.

Nowadays, there are few clean technologies and only the high professionalism of specialists can contribute to the improvement of the existent ones and to their gradual replacement. These mechanisms, though more costly, are efficient on long term from the point of view of the environment protection and public health.

6.4 Public Consumption

? As a component of sustainable development, **public consumption** reflects an interconnected ensemble of quantitative and qualitative elements that expresses the position of people in relation to their social, cultural and economic environment. If one considers man an active factor in the environment, then consumer protection is one of the explicit aims of sustainable development. From this point of view, the transition to a market economy in Romania has not lead to efficient solutions, neither for the society, nor for the individual. On the contrary, the previous imbalance in relation to public consumption was perpetuated and became more acute in the market economy context.
? The main connecting element between production and consumption is **income**, its **dimension and structure**.

The severe drop in the average income and its diversified and changing sources led to a decrease in the purchase power. This is the direct effect of the economic decline, rampant inflation, decreased efficiency and competitiveness, as well as the decrease in employment and insecurity of jobs and it is reflected in the dimension, configuration and tendencies taken by the consumption pattern. The disjunction, inconsistency and delay in introducing practical economic reform, the limited response capacity, the corrective rather than punctual character of the solutions adopted, which were limited in scope, and belated in relation with the urgency needed in satisfying certain requirements – many of them essential - have reinforced the tendency observed since the 1980s of **departing from the consumption**

patterns seen in the developed world. At the same time, the "nervousness" and the socio-economic "pressure" of the current model increased.

One of the features of Romanian's consumption patterns is the growing tendency seen in many families towards self-sufficiency, with a predominance of over 30% in 1996. The tendency is opposed to that in the developed countries, where the consumers' dependence on the market is growing. Another element that reflects the reverse tendency of Romanian's consumption patterns as compared to those in developed countries is the proportion of income from social sources of the total income of households, which was 15.6% of the total income in 1996, 17.8% in 1997 and 18.7% in 1998, as compared to 20-25% in central European countries.

The actual consumption pattern, analysed in terms of spending structure and the average consumption of some fundamental products or of calories, has many features typical of developing countries. It does not show any sign of improvement yet. This indicates that Romania is still very far from any kind of sustainable development.

A regards the spending structure, the most obvious feature is the high percentage of spending for the **purchase of food** and, consequently, for **food consumption**. The proportion of the total income spent on food in 1998 was 57% in all households, 63% in households of the unemployed, 47% in households of the employers.

The convergence on food consumption is developing at a time when the consumption of food products in natural units is about half of that reported in the developed countries.

In the context of price liberalisation and the removal of most subsidies, spending on **household goods**, accounted for about 20% of the total consumption spending in 1996. In a situation where food and household goods swallows as much as 70 or 80% of a household's total spending, it is obvious that resources available to fulfil needs connected to human development are severely, sometimes dramatically limited, with harsh long-term effects. Thus, out of the total spending for non-food products in 1998, spending for durable goods amounted to 8% for employees, workers and farmers, 4% for the unemployed and 3% for pensioners.

Spending on **medical services and medicines**, as well as on **culture, education and training**, all elements of significant importance for a sustainable development, is very low when compared to the real needs, having sometimes a residual character in some families. Thus, in 1996, compared to the average proportion of 4.8%, spending was largely dispersed, between 1.9% in the families of farmers and 9.4% in the families of employers.

Apart from the spending structure as such, the distribution of families according to the size of spending reveals discrepancies and inequalities.

A study conducted in 1996 on household categories, created according to the spending level per adult and according to the residence environment, showed glaringly wide discrepancies between the extremities with regard to consumption. As regards food consumption, variations were small (a factor of 2.5-2.6), but these increased for non-food products (between 7 and 16, according to the residential environment) and were very large in terms of education services, culture, leisure and health (a factor of 10-36).

Medium and long-term objectives for public consumption and income policy

Modernisation of the consumption pattern and the latter's compatibility with a sustainable development. Integration of the public consumption into the global strategy of development. This implies:

? Ensuring a balanced level and structure - normal from the point of view of the scientific principles - of consumption spending on the one hand, and goods and services consumption in physical units on the other hand;
? Ensuring that fundamental, and gradually, special needs are satisfied by 2000-2002. This is essential for a sustainable development;
? Diversification and improvement of the quality of social services;
? Partnership between the public and private sectors in supplying social services;
? Consumer protection.

Medium-term measures to be taken:

? Stopping economic decline. Restarting economic growth and directing it towards human development;
? Stimulation of production on the internal goods and services market;
? Rise in the average income;
? Controlling inflation and keeping it within reasonable limits;
? Strengthening the government's functionality and stability in order to sustain the changes in consumption patterns, by economic means;

? Speeding up reforms in the field of social services, creating specific conditions for their functioning; ensuring co-ordination between social services provided by the public and private sectors, with special emphasis being placed on health, social security, and education services;
? Intensification of consumer protection by means of adequate education, supervision and control measures.

Long-term measures to be taken:

? Durable economic growth; increase in efficiency, competitiveness and the better employment of the workforce;
? Decreasing the gaps in development, productivity, competitiveness, income and consumption in comparison with the developed countries, especially the E.U. countries;
? Increasing the importance of commercial services; formation and development of a competitive market for services;
? Conclusion of reforms in the social services field; overcoming of the financial crisis in this sector;
? Research on the impact of the consumption structure on sustainable development;
? Creation of an adequate an operational information system;
? Education;
? Sustained consumer protection.

6.5. Society and the role of different social categories

In order to implement the objectives, policies, and mechanisms initiated by the government in the "Agenda 21", the involvement of all social groups is absolutely necessary. The public's degree of participation in decision-making is a prerequisite condition for the realisation of a sustainable development.

The relationship between local authorities and the citizens they serve represents the main element in evaluating local democracy. Currently, in Romania, none of the parties acts according to the expectations of this bilateral relation, though this greatly depends on the desire to collaborate, and the on the competence and experience of those involved.

The situation is, however, better where this relation is established between the public authorities and citizens associated in certain structures: non-governmental organisations, associations or foundations. Collective action offers citizens a feeling of being represented, sometimes even the legitimacy of their individual actions, so that co-operative relations can be established between public administration and NGOs, sometimes as a partnership, these being an important part of a democratic society.

Every person, group, or organisation should have access to information relevant to the environment and its development, which is structured by the national authorities. This includes information on products and activities with potential impact on the environment, as well as information on protection measures. Free public access to information and to decision-making has to be indiscriminate. Only in this way can a true social partnership be achieved, a process by which joint efforts can lead to a sustainable development.

Principle 10 of the 1992 Rio de Janeiro Declaration

Environment policies can be best realised through the involvement of all the citizens who participate actively in the relevant field.

6.5.1 The role of women

Total, equal and positive integration of women in all the development-related activities is recognised and promoted by the international community by means of declarations, conventions and many action plans.

The decade of women - equality, development, and peace

? The Nairobi declaration - 1985
? The Beijing declaration - 1995

In Romania, women constitute an important human potential, owing to their proportion in the active population, their strong representation in social professions, and their degree of education.

The degree of schooling for women between 1990 and 1997 was almost 95.4%, with great differences between the rural and the urban environment. The net rate of their school attendance shows significant differences between rural (40.4%) and urban areas (78.6%), between different social classes and ethnic groups.

Women's participation in the economic life, reflected in their proportion in the active population and in certain professions, as well as their professional status, shows that, although at first sight equal to

men's, there are inequalities regarding women's access to top level jobs, including politics. The unemployment rate for women has always been higher than that for men, especially affecting women who are 15-24 years of age.

Statistics indicate cancer, post-natal mortality, and high abortion rates as the main problems affecting the female population in Romania. On the average, a woman in Romania has 3-4 abortions during her lifetime, while in Western Europe there is less than 1 abortion. Although modern ways of contraception are legal today, most women still abort or use traditional methods of fertility regulation and contraception.

The main problems with which women in Romania are confronted are:

? Psycho-social problems in a society based on patriarchal values;
? Incomplete legislation for their development in the family and society;
? Total or virtual lack of institutions and services adapted to the women's needs.

Women's organisations have had a tradition in Romania ever since the last century, when they had a charitable or cultural character. In the communist period they had a mass character and were preponderantly politically oriented. Since 1990 women have been actively involved in NGOs, professional associations, unions and organisations for the promotion of their specific problems.

Strategy

? Encouraging a rise in the number of women (10%) employed in key positions, including politics, planning, consulting, and management in the field of environment and development, by specifying that women applicants are welcome in employment offers. This is achieved through the implementation of personnel policies that are balanced with regard to the proportion of women at all levels of employment.
? Encouraging, by means of financial mechanisms, programmes and materials to show the importance of women in society in order to change men's and women's attitude about their place in the family and society (marriage counselling, group therapy, model presentation).
? Reviewing, adoption, and application of laws prohibiting violence against women, with the imposition of administrative, social, and educational measures, including work for the community in order to eliminate any kind of violence directed towards women.
? Promotion of legislative initiatives by women's organisations, with the aim of reducing overwork for women, at home as well as outside the household; creation of more nursery schools by the government, local authorities, or employees.
? Promotion of ecological household technologies developed and improved for women. Development of programmes that establish and stimulate the preventive and curative medical system geared to women's problems. Programmes should sustain the productive and reproductive role of the women and give special attention to the need for offering equal medical services.

6.5.2 Role of young people and children

Youth's participation in the development and implementation of sustainable development policies is implicit, because the direction in which society develops exerts a direct influence on their present and future lives. They represent approx. 30% of the population, their intellectual contribution and their ability of enthusiastically supporting a cause opens up a special perspective that must be considered.

The proportion of young people in secondary education differs strongly between urban and rural environments and among administrative departments or counties. The number of students in undergraduate university education is lower than in other Eastern European countries. The proportion of young people in the total number of the unemployed is 50.96%, with small regional differences.

The main problems affecting this social group are:

? Lack of housing / difficulties in obtaining it;
? Lack of professional training;
? Lack of participation in the public and political life;
? Drug abuse and dependence;
? Lack of organisations in charge of youth problems.

Conservation and protection of natural resources and the environment is primarily done in the interest of the children. They are the most vulnerable to the effects of social environment degradation, both in developed and developing countries. They also represent the most receptive social segment when it comes to an ecological way of thinking. The specific interests of children have to be taken into consideration in the processes and actions related to the environment and development, in order to ensure their sustainability.

Special attention has to be paid to disadvantaged children: those from polluted, isolated areas, street children, and the victims of abuse. In order to solve this problem, the appropriate legal framework has to be created, and implemented by government structures and NGOs working with children.

Declaration on children's right to a healthy environment:
The prevention from exposure is the only effective means for protection of children from dangers caused by an unhealthy environment.
(made at the 1997 G7+1 Summit)

6.5.3 Non-governmental organisations

Non-governmental organisations play a key role in the shaping and generation of community involvement in the democratic dialogue. Their credibility lies in their responsible and constructive participation in the development of the society. The institutionalised and non-institutionalised organisations must be acknowledged as partners for the implementation of sustainable development strategies and policies.

Strategy

- Promoting a dialogue between youth and the government at all levels and establishing mechanisms that give young people access to information, thus offering them the opportunity to express their opinions regarding governmental decisions in implementing the sustainable development strategy.
- Ensuring access for all young people to secondary and undergraduate education and helping them with their career choices according to their vocation.
- Fighting youth unemployment by offering jobs corresponding to young people's qualifications.
- Promotion of a healthy life style for young people, and their involvement in their community's problems.
- Integration of the "child issue" in the strategic policies concerning the environment and its development at a local, regional, and national level: granting funds for subsistence and study, the right to natural resources, housing, and educational and leisure facilities, control of pollution.
- Introduction of environmental and development aspects in the educational process.
- Integration of Romanian children in the international cycle of spiritual, cultural, and scientific values.

Although some non-governmental organisations, created before World War II or even at the beginning of the century, succeeded in surviving the totalitarian period, the Romanian non-governmental movement experienced an explosive rebirth after 1990. The creation of new non-governmental organisms became possible by up-dating Law 21, from 1924, regarding the creation and functioning of associations and foundations. Currently, the number of Romanian non-governmental associations is not exactly known, but according to recent estimates (Non governmental Organisations catalogue in Romania 1997) it apparently reaches 11,000. According to the same source, their distribution according to the residential environment is: Bucharest 23% (735), urban areas (department capitals) 58%, urban areas (not including the department capitals) 12%, and the rural areas 7%. With regard to the activities connected to environment protection, the ONG Catalogue published by REC in 1997 lists 21 organisations active in the field of training and environmental education (88%), in environment protection and nature conservation, pollution control (65%), and 52% in raising the society's awareness to the dangers of pollution. Regarding membership, more than a half of these organisations (65%) have up to 50 members, and only a few have a membership over 3,000. Their funding is predominantly external. Internal funding comes mainly from the local offices of the REC (88%), the Soros Foundation (23%), the Ecumenical Association (15%) and, to a lesser extent, USAID, the Know How Fund and the MilieuKontact Oost-Europa.

In order to exercise the representative functions of the citizens in their relation with the administration, the NGOs have to act as a society indicator and they must be extremely mobile, in order to re-direct their actions according to society's needs. Thus, the NGOs play an important part in both the identification of community problems, and the organisation of measures to correct them, by means of catalytic resources that the administration does not provide.

The activity of the NGOs does not have to be perceived as an alternative or a substitute for the local administration units, but they usually offer a complementary course of action in order to solve the problems of the public by encouraging the governmental sector to adopt solutions. They also co-operate with administrative institutions to educate and sensitise the public and the administration.

The partnership between public administration and NGOs is one of the forms through which both sides decide to reach a goal. It can be formal or informal, and can assume different aspects: NGOs taking on an advisory role for the administration, subsidies for NGOs' activities by the administration for public benefit, contracting services offered to the administration by NGOs.

Relations with the various charities and public administration depend on the legal framework (which is permissive but not stimulating), but also on the actual goodwill of the authorities to take them into consideration and to collaborate with them.

The draft of the law elaborated by the NGOs, to eliminate the restrictions regarding the minimum number of associations mentions that according to private law charities are subject only to judiciary control. Previous notifications from different ministries are to be eliminated and fiscal facilities to be regulated. However, this project has not, so far, been considered by the Parliament.

Other laws promoted by the civil society , which have been considered by parliament, are: the Law of Sponsorship, the Law on Local Public Finances, the Law on Local Budgets, the Law on Alternative Military service, as well as changes to the Penal Law and the Police Law.

A coherent legal framework that can sustain the development of the activities carried out by charities is necessary for two reasons: harmonisation with European practices on the one hand, and defining their place in the presence of public administration, on the other. Thus, updating Law No. 21/1924 is vital with regard to the creation and functioning of the charities and foundations. It is also necessary to adopt some fiscal regulations that encourage profitable activities for these non-profit associations, activities that generate revenues for the support of the charities' aims.

After approximately 9 years of existence, the NGO movement has the following problems:

The legal framework

Law No. 21/1924 regarding the creation and functioning of charities, is incomplete, confusing, not uniform, impossible to implement (there are no procedural norms). It has no clear connection to other public, economic, or administrative policy implementation mechanisms, and does not sufficiently integrate public participation in the decision-making.

Access to information

At the end of 1998, Law No. 23/1971 was still in force; it referred to the protection of state secrets and it was connected with HCM (Decision of the Council of Ministers) No. 19/1972.

A new law project regarding state secrets was presented to the parliament in 1998, but it follows the logic of previous projects, being characterised as "following the drastic limitation of access to information, to free exchange of information and reinstate centralised control, that was going to be exercised by RSI."

The relation with mass-media

Currently, the activities undertaken by NGOs are poorly reflected in the press:

? In 1997, the 6 main newspapers that are considered in this survey published 3,629 stories regarding the NGOs and their activity. The main types of press stories included: news 70.5%; news followed by commentaries, 18.2%; and advertisements 5.2%;
? In the local press, the presentation of the NGOs activities was much better. Out of the 188 surveyed articles in the local press in 11 departments, the distribution by genre was: news 77; descriptions 39; stories 21; commentaries 21; announcements 13; notes 10; interviews 5; enquiries 1 and editorials 1;
? Journalists' attitude towards the mentioned subject is: neutral 63%, positive 30%, and negative 7%.

The public opinion on the non-profit sector is: 50 % have very little trust in NGOs, 19% trust them a lot, and 31% of those interviewed did not give a definite opinion (survey CURS 1998, funded by the Foundation for an Open Society).

Strategy

Development of mechanisms that allow NGOs to be responsible and effective partners in the environment protection process and in sustainable development:

? Access to updated information.
? Establishment of permanent dialogue with the government institutions.
? Financial instruments to stimulate the activities (e.g. the Environment Fund).

6.6 Human settlements

The settlement network in Romania

Sustainable development regarding human settlements has the purpose of creating a healthy and coherent environment, that functions at all levels in both urban and rural areas, as well as at the level of the town network. The balance between the natural resources and the environment must be preserved in this process.

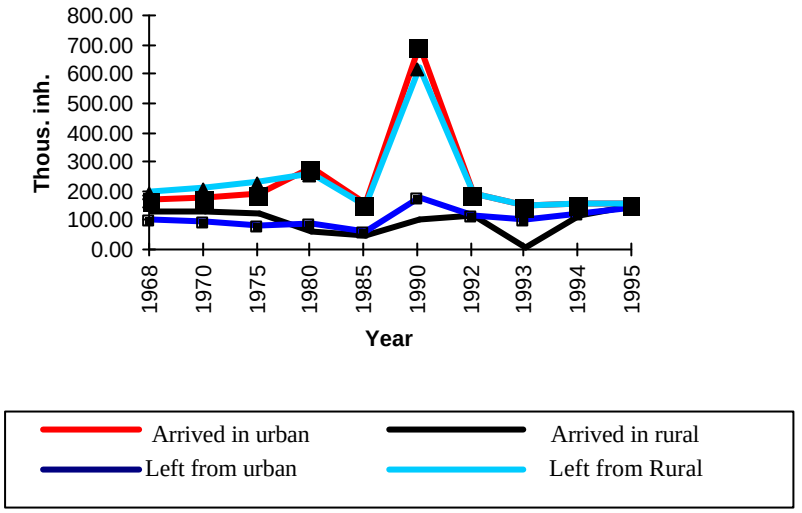
a) The urbanisation phenomenon

Urbanisation is a constant and particularly pronounced tendency of all the settlements because of the massive industrialisation in the 70s and 80s, and of the relaxed post-1990 legal framework.

b) Migration

The year 1990 represented a real demographic shock for large cities, with consequences on housing and all services offered to the urban population, but also on the inhabitants' degree of urbanisation.

Fig. 6.2 -Internal migration



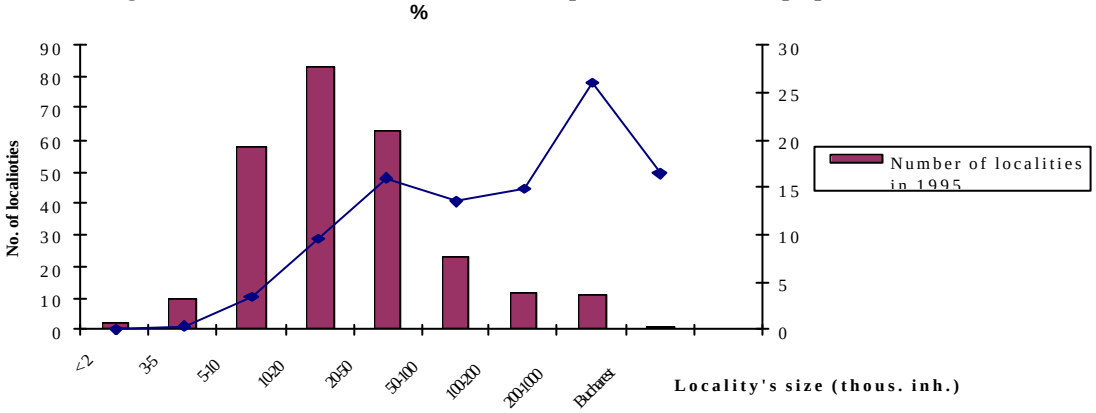
During the last few years, an important migration towards the rural is registered. Compared to the other European countries, the proportion of the urban population is significantly smaller and its estimated growth rate is dropping.

The migration of the workforce towards urban areas led to depopulation phenomena, manifested in the rural zones and in the small towns, with negative consequences for the socio-economic development dynamics.

c) A survey of human settlements in Romania (population, number of settlements)

Currently, the town network in Romania comprises over 260 towns. The concentration of most of the rural population in communities of 2,000-10,000 and the presence of half of the population in urban areas, in towns of 20,000-200,000 inhabitants is suggestive of the special attention that has to be given to them. In this respect, services and jobs must be provided in order to keep the population in the rural areas

Fig. 6.3 Size of localities and the repatrition of the population



and to reduce migration towards urban centres.

d) Natural risks and human settlements in Romania

The significant seismic activity, frequent landslides and floods, are phenomena that have a negative impact on the durability of the physical and demographic stability of small towns and villages.

Structural aspects of human settlements

a) Street network. The underdeveloped street network in many villages, as well as the spread-out character of the roads, obstructs the opening that is favourable to the expansion of local networks. In urban areas, the type of street network is one of the main causes of traffic congestion.

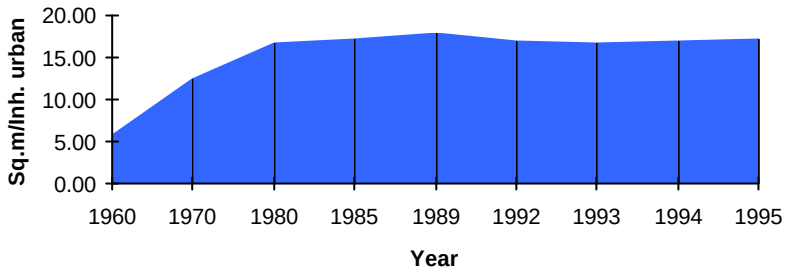
b) Use of land. A characteristic of the post-1990 period is the expansion and increased use (both legal and illegal) of intra-village space, both in the rural and urban areas, simultaneous with the diversion

The lack of efficient control on the use of plots, the lack of a complete database for this essential aspect of human settlement management, leads to inadequate development and use of land, with negative long-term effects.

of some land, and the fragmentation of plots. Rural localities depend greatly on subsistence households, placed on intra-village plots.

c) Urban green areas. The large cities have increasingly less green spaces, Bucharest being the European capital with the smallest green areas as compared to the total surface of the city. In addition to the decrease of green areas during the period of housing construction in the 1980s, the existing green areas and belts are being further reduced, due to a massive influx into the cities.

Fig.6.4 The evolution of urban green areas



The shrinking of green areas during the extensive housing developments in the '80s is added to the elimination of the existing green areas, the frequent cuttings, all these being connected to the massive population growth.

d) The urban equipment and services network

The growth of population in large towns has increased the pressure on urban services networks, (on transport, education, health), which have not been adequately restructured since the end of the 1970s. In the rural environment, the lack of water networks is the main risk element for public health.

63% of the population is connected to the public water supply system; 92.3% in urban and 16% for the rural areas.

Functional elements (green areas and children's playgrounds) created in connection with urban units for collective housing have often been converted into private carparks, due to the increased number of the privately owned motor vehicles. This, combined with the policy of building more housing, has made urban green areas insufficient and destroyed residential comfort.

e) Energy aspects

The available data draws the attention upon the technologies for the production and supply of energy destined to domestic consumption, upon the household consumption patterns for energy, but also to thermotechnical qualities of the housing in Romania, whose low quality amplifies the negative effects on the environment.

f) Urban image and the behavioural framework

The lack of symbolic reference points, of personalisation and orientation of the housing ensembles and of the human settlements in general, coupled with the absence of elementary urban culture and urban information for the public are the results of forced urbanisation and of massive demolitions. All this is a depersonalisation factor for the individual, and induces behavioural deviation phenomena, which in turn lead to a decrease in life quality in the human settlements.

Hous ing

a) Distribution of Housing

Between 1977 and 1992, the average size of homes grew from 26.9 sqmetre to 33.8 sqmetre, and the medium average area per person grew by over 30%, a development caused by the rural areas. Currently, we are witnessing a housing crisis in urban areas, caused by:

? Increase in urban population;
? Continuous degradation of existing housing, simultaneous with an excess of space in rural areas;
? Increase in number of the elderly and of poor families;
? Increase in the number of single parent families;
? Impact of the demographic boom that has its origin in the period when abortion was forbidden.

b) Buildings according to the construction materials used

Most buildings have concrete, brick or stone walls and floors made of reinforced concrete, but there is still a significant number of adobe and trelliswork housing.

Fig. 6.5 – Construction materials for housing in the urban areas

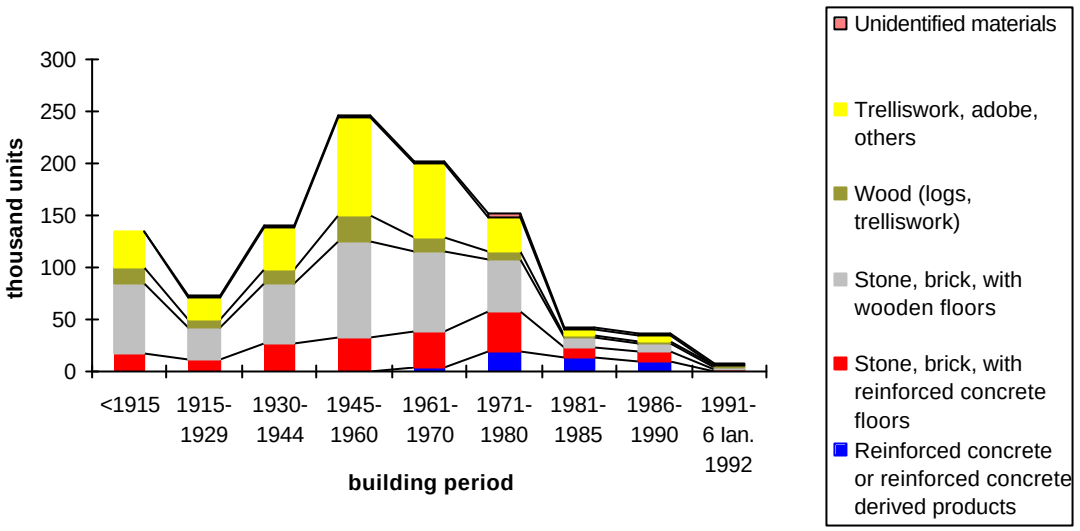
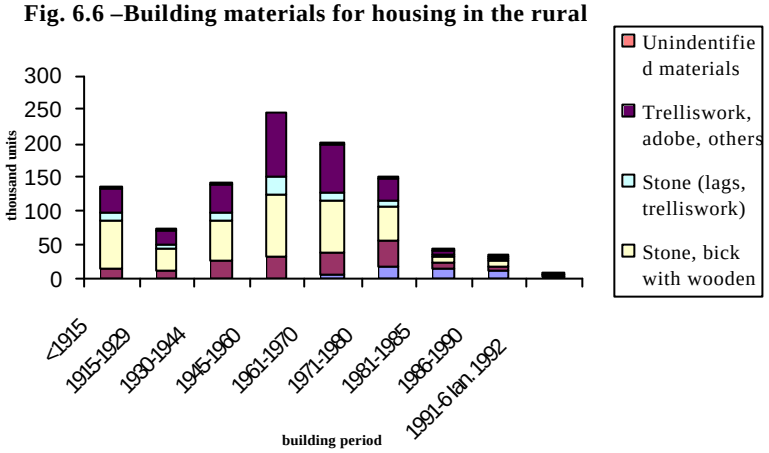


Fig. 6.6 –Building materials for housing in the rural



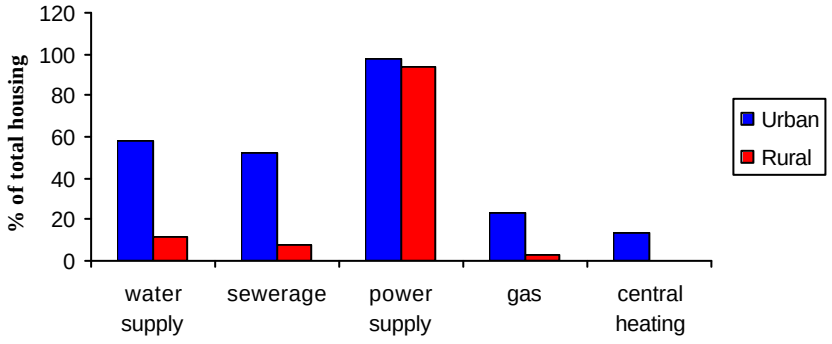
Building materials used for the urban areas are large energy consumers, impossible to assimilate in the natural circuit and they do not allow for their restructuring according to the demographic dynamics. Rural areas housing is done with local

c) Duration of habitability

Most urban housing still has a time reserve regarding the duration of habitability of collective housing; for rural housing, but also for a significant number of urban homes, especially detached houses, their age implies the imminent need for repairs and for the creation of replacement housing.

d) Equipment of houses with installations

Fig 6.7 – Internal housing equipment



The bad situation of housing equipment in the rural areas represents the main problem connected to life quality in these areas.

On the other hand, over 13% of the urban environment housing equipment is degraded, thus revealing the forced character of urbanisation in the 80's.

The legal framework

Legislation in the field defines a regulatory and normative framework, reviewed and harmonised with the international norms, but characterised by inefficiency in the application of its provisions, with negative consequences regarding the quality of buildings but also regarding urban architectural aspects.

Strategic objectives for human settlements

a) Objectives of territorial management

Territory management plans are according to those set by the European Charter of Territory Arrangement. They refer to the management of growth and distribution of the territory for socio-economic activities, sustainable development of regions, elaboration of plans for the soil occupancy, development of economic activities benefiting the living conditions of the city population, improvement of living conditions and transport, conservation of buildings and natural reserves with a view to put to better use the resources of the National Capital.

b) Population

- Integration of all socio-economic activities into the framework of general policies regarding the territorial management, spatially and temporarily planned, in order to maintain the environment's support capacity, at all levels of spatial planning: country, department, village, and urban district.
- Continuation of the legal process which was begun in order to harmonise territorial management with international standards.
- Regional co-operation between the different administrative units, based on regionalisation at the national territorial level.

- Stimulating the stability of the workforce in the rural environment and in small towns, to reduce the number of commuters and supply work force for the entire territory of Romania.
- Avoiding regional and local socio-economic polarisation.

c) Resources and territory

- The distribution of socio-economic activities must be realised territorially according to regional and local resources.
- Encouraging the use of alternative economic resources at a regional and local level (small industry, exploitation of the natural landscape, ethnological and cultural resources).
- Diversification of agricultural products, according to the ecological and climatic local resources in the rural settlements; diversification of the services (commerce, health, education, leisure, administrative, financial, cultural, religious).
- Differential management of demographically, socially, and economically damaged areas.

Development of the medium-sized towns in order to balance the services offer and to reduce the population migration (polarising centres vs. rural towns)

Maintenance of controllable structural relations between the areas with buildings, agricultural land, and terrestrial and aquatic ecosystems in order to maintain their viability

- Cataloguing and developing of studies for the high risk natural or man-caused disaster areas at the level of the entire territory of the country, as well as pre-disaster planning, including cataloguing and reinforcing buildings that may be affected by earthquakes.
- Limiting town expansion - leaving free and agricultural areas in the vicinity of towns and cities, in order to maintain the viability of agricultural land in the vicinity of the human settlements.

d) The Human settlements and the housing fund

- The spatial concentration of the rural settlements concurrent with the population distribution throughout the territory within small and medium sized communities.
- Increase in population density in the urban and rural areas, especially by creating network facilities in rural areas and by the expanding and maintaining those already existing in towns.

Restructuring towns by:

- A more efficient use of the existing services and buildings, thus reducing the need for new investments.
- Maintaining the cultural identity of towns, by conserving valuable buildings and urban areas, and integrating them in the functional circuit.
- Creation of green areas and belts connected to the territorial eco-systems.
- Increased degree of functional-spatial integration between the urban areas, and the surrounding territory.
- Development and maintenance of water supply and sewage systems and creation of similar systems in the rural areas.

? Providing housing for all the population living in towns and other localities.
? Development of human settlements in areas that are not threatened by technological risks, e.g. by pollution.
? Decrease of energy losses due to inefficient thermal insulation.

e) Traffic infrastructure

? Encouraging the creation of a traffic network capable to serve settlements that absorb the influx of population towards big cities.
? Creation of a widespread public transport system in large towns and neighbouring towns, both competitive in terms of economy and comfort and with a good coverage.

f) Management instruments for territory management

? Creation of a legal framework and of a system of regulations in order to responsibly manage natural resources and protect the environment (including the landscape resources along with the conservation of the cultural and historic heritage).
? Credit policies capable to stimulate the construction of healthy and lasting buildings in both rural and urban areas.

Creation of a legal framework capable to ensure information and participation of the public and non-governmental organisations in the making and administering of decisions.

? Creation of a flexible and efficient legal framework to favour the organisation and œo-ordination between the different decision levels, with access to adequate budgets; creation of various partnerships between those institutions interested in the development of human settlements, including activities by and resources from the public, private and community sector.
? Integration of the cost/benefit analysis versus environment resources in urban and territorial planning, and in the case of each new investment.

Part III: Scenarios and Policies for Sustainable Development

CHAPTER 7

Scenarios and Co-ordinates of the Model for Sustainable Development

The elaboration of the main guiding lines of the National Sustainable Development Strategy stems both from the analysis of the present situation and from the efforts made to define possible ways for Romania's development. This is the proper moment to mention the Snagov strategy regarding the integration in the E.U. and the prospective study, "Romania 2020".

The **new concept** of this strategy is the **holistic approach** to the numerous problems implied by Romania's development and the long-term analysis of their effects. This work does not refer solely to the economic growth; it also tackles for the first time the problem of the **future from the perspective of the resources.** The care for natural resources, their reasonable exploitation and their replacement in order to maintain the population health, food security, to improve the standard of living and continuous education, are key elements for the new manner of envisaging the future. Development is necessary, but in the current context it also has to mean quality, and has to be realised only within the limits of the support capacities offered by the resources (natural and human), be they produced internally or imported. The problem of resource security must be viewed, in the first place, in relation to their cost, but also in relation to their global scarcity.

In the present stage of transition, the **key** to the change of direction towards Romania's sustainable development is the **efficient management of resources in order to attain internal and external competitiveness of national goods and services**.

The task that Romanian society must fulfil in the next 20 years is **"doing more with less "** in order to improve the quality of life for the present and future generations and to secure competitive advantages for our society.

Although the problem of resources has become increasingly international rather than merely national, it is not only the global dimension that calls for a long-term, sustainable development, but also the need to protect and conserve the natural resources and the environment.

7.1 Internal and external conditions

- Relatively low level of socio-economic development in Romania and the state of transition to competitive market mechanisms.
- The existence of valuable natural capital, superior to that of many European countries, which is currently insufficiently protected against degradation and the ownership of which is insufficiently clarified.
- Population and its dynamics are not limiting factors for the long-term sustainable development of Romania with relation to its territory and resources.
- Overexploitation of renewable and non-renewable resources.
- Inadequacy of the legal and institutional framework to meet the needs of the internal development and the international compatibility criteria.
- The need for an efficient harmonisation of national interests with international trends, in the context of an intensification of the market globalisation process; this is more a wish than practical fact.
- The growing tendency towards harsh global competition which requires an increased competitive capacity of the national and trans-national companies.
- The marked but unwelcomed trend towards widening the gap between developing and developed countries, which has become a potential source of tensions, conflicts and imbalances.
- The existence of military conflicts in neighbouring states.
- The high degree of employment in agriculture that has to decrease simultaneously with the modernisation of the sector.

7.2 Principles and criteria

Sustainable development presupposes as a **general objective, the continuous human development** realised by means of:

? Healthy economic growth, efficiently interdependent with the natural environment; the economic partnership has to be functional and to give better results on short, medium and the long term;
? Internalising the negative and positive costs (environmental, mainly), the marginal external costs and benefits, through mechanisms and competitive market instruments, as well as through the regulatory intervention of the state (standards, juridical regulations, penalties, taxes);
? Maintenance of the renewable resources that must not decrease in time; restoration of the environment, in the context of the improvement of the living standard; consumption of non-renewable must be phased in time in order to be replaced with other resources;
? Saving or substitution of resources by applying the results of research and science and developing new technologies;
? Establishing the admissible limits of the noxious effects on the environment and resources, caused by the economic system, and the strict observance of these limits.

7.3 Scenarios

The principle of correlating economic development and sustainability is taken as a starting point, despite the impression that there might exist an opposition and adversity between them. This impression is widely circulated in the literature (jobs versus conservation of natural resources) and within international bodies and organisations (a rift between the developed countries, which demand ecological measures and the developing countries which consider them as a stumbling block in the path of their economic programmes, often interpreted as industrial embargo).

It has to be mentioned that for the emerging countries in the global economy, environmental concerns, concentrated in the concept of sustainability, introduce the concepts of heritage, public goods and interests, and co-ordinated management. Far from using administrative measures and centralised management, the promotion of these ideas can be properly effected by means of legal instruments, scientific criteria, "The Culture of Sustainability", and long-term economic sustainable practices for a long term.

The definition of the sustainable development parameters in Romania presupposes the devising of scenarios based on adequate predictive methods, which reflect the relation between natural resources and environment, economy, and society, in which quantitative approaches are intertwined with qualitative ones, and positive international experience serves as a reference point.

When developing these scenarios, the level and pace of the GDP increase must be taken into account and understood in the sense of internalising environmental costs (externalities) so that this indicator will be correlated with the potential of tolerability of resources that Romania has. However, expressing progress only in terms of GDP is currently inadequate, since it includes good and bad things at the same time (for example, costs for environmental damage are, generally, avoided since that would lead to a GDP decrease). Therefore, the adoption of a set of indicators that will express the increase of the quality of life and replace GDP as the only indicator of development is needed, as an increasing number of economists and international organisations have done.

Having in view these aspects and the fact that the adoption of the European Union's objectives and, implicitly, the standard of living of the E.U. countries is a long-term strategic goal, the average per capita GDP in the 15 E.U. countries at the level of the year 2020 may be taken as a reference point to devise scenarios. When elaborating the possible versions, the necessary **annual increase of the GDP per capita** must be taken as an indicator whose value is correlated for Romania as a percentage of the E.U. countries' per capita GDP and then the period required by Romania to reach such value may be calculated. At the same time, the main costs for investments and workforce are connected to this dynamic model.

a) **The first scenario**, called rapid development scenario, assumes Romania's relatively prompt inclusion into the group of countries with a developed market economy on the basis of a coherent Sustainable Development Programme, institutionally supported, but also starting from an adequate level of social awareness. Historically, these requirements have always proved to be consistent for any type of modernisation. Achieving an **annual average growth rate of 8-10% in the GDP per capita c**ould move Romania by 70 to 80% closer to the level of the per capita GDP of the E.U. countries by the year 2020. In this context, it will be beneficial to give priority to the development of those branches in which investments have a high short-term profit potential and the potential to generate new jobs.

Though this scenario is **highly desirable, it is the most unlikely one** from the point of view of the evolution of the globalisation processes, and the more so as Romania does not have at present the required resources to evolve at such a fast pace.

b) **The second scenario**, called the scenario for the development at a constant pace or the competitiveness scenario (**this is the scenario that was chosen in the strategy and which represents the best formula for a sustainable development**.) It is different from the first one because of a comparatively slower development, due to the fact that renewable natural resources are used at a sustainable level. The objectives and approaches remain the same, but the implementation of the sustainable development will be accompanied by **an average annual GDP increase of 6.5%. This rate will place Romania (from the point of view of the per capita GDP), at approximately 50% of the average level of E.U. countries by 2020**.

Starting from the current evaluation of the natural and human capital, as well as from the need to impose a rapid pace of changes, this proposed version can be accomplished based on a constant and efficient use of the available resources. Making people aware of the need for and the possibility of this development is feasible, regardless of the specific doctrinaire features that lay at the basis of this strategy. It is the scenario that takes into consideration the need for a sustained pace of the economic growth based on the existing resource potential (evaluated in the second part of this paper) and that does not ignore local constraints. The scenario is consistent with the possibly non-linear march of the globalisation, but this will not make it immune to the evolutions dictated by the scientific and technological progress of the 21st century. The scenario for sustainable development at a constant pace implies a faster evolution of attitudes, meaning that society must be ready to adopt and put into practice the objectives that are in its long-term interest, and assume the adequate responsibilities.

Sustainability is easier to achieve when deterioration processes have been stopped and in the case of a development in a sustained rhythm, international competitiveness leads to finding certain favourable niches in the global system that make this development alternative possible.

This scenario could diminish the discrepancies between Romania and the developed countries, placing Romania in a more favourable position to face the long-term challenges of the coming millennium.

According to this scenario, the dynamic of the GDP in the 2000-2020 time span can be realised in several versions.

The most feasible choice is the one involving differentiated dynamics. The rhythm will be slower in the first phase (2000-2005) because of a general inertia that is present in the economy, because of difficulties in the rapid transformation of the socio-economic system and inability of the structures to meet the requirements of sustainability requirements.

The discrepancy between this pace and the recommended one assumes that, in the next phase, the GDP dynamic has to be higher, in order to make up for the downward deviation from the desired tempo for the entire period.

Table 7.1

The average annual GDP growth needed (added value)
in the period 2000-2020, in order to ensure sustainable development

(%), prices comparable to 1998

	Periods	of which sub-periods:		
	2001-2020	**2001-2005**	**2006-2010**	**2011-2020**
GDP by sector	6.5	4.6	8.0	6.7
- Primary	2.9	2.8	3.4	2.7
- Secondary	6.4	5.7	8.7	5.6
- Tertiary	8.4	5.0	9.9	9.3

Source: Ministry of Finance, Forecasting Division, 1999

The differences between the dynamics of GDP according to each sub-period, reveal a substantial forward slip in the tertiary sector for the interval 2006-2020, which is possible because of the globalisation of the services sector. The secondary sector has a sinuous evolution, reaching the peak of its dynamic in the sub-period 2006-2010.

Table 7.2

The privatised structure of GDP by macro-structures, in the period 2000-2020

%, comparable prices 1998

	1998	**1999**	**2000**	**2005**	**2010**	**2020**
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
PRIMARY SECTOR	16.0	16.7	16.9	15.5	12.5	8.5
Agriculture, forestry and other	16.0	16.7	16.9	15.5	12.5	8.5
SECONDARY SECTOR of which:	36.9	36.6	36.5	38.5	39.7	35.5
- Industry	31.7	31.5	31.3	33.0	33.5	30.0
- Constructions	5.2	5.1	5.2	5.5	6.2	5.5
TERTIARY SECTOR	47.1	46.7	46.6	46.0	47.8	56.0

Source: Finance Ministry, Forecasting Division, 1999

The result of the differentiated composition of the three fundamental sectors of the economy is given in Table 7.2. This is based on the general trends registered at global level in countries with developed economies, where structural modifications are caused by differential dynamic increases in all three sectors. In conclusion, the primary sector acquires a diminished importance, with the corresponding growing in importance of the tertiary sector.

c) **The third scenario**, seen as a relatively slow development, would allow -- under the best circumstances – the GDP to reach about 30% of the average level of the per capita GDP in the EU countries by the year 2020. But such results would not be enough to bridge the gap between Romania and the EU countries. This scenario significantly reduces the possibility of the present generation to accomplish sustainable development, leaving this task to future generations. The predicted growth rate does not guarantee that Romania will advance in the international hierarchy. It does not guarantee a decrease in the level of poverty or an improvement in the quality of the environment. Though this scenario is undesirable, that does not mean that its realisation is ruled out. This possibility, however, may be taken into account under the present circumstances, when intellectual and cultural energies are wasted and economic, social, and environmental entropy is unacceptably perpetuated.

d) **The fourth scenario** is the pessimistic scenario and it implies further decline, which would take the economy beyond the possibility of achieving a healthy development. This would be determined by a series of social, economic and non-economic elements, including disasters. Of course, wars and natural disasters would impede the socio-economic development of any country. However, adopting a strategy for sustainable development could alleviate or prevent the effects of such disasters. There are also natural disasters caused by man, due to the absence of a strategy for their prevention. Historical examples are numerous: it is enough to mention desert areas that once hosted flourishing cultures. In this regard, the threat exists in Romania, some examples being the change of in the water economy caused by forest cuttings, the degradation of soil, water and air pollution, the degradation of the population's standard of living, etc.

The relation economy - environment in the framework of all four scenarios has qualitative and quantitative determinants. The fact that developed countries can resist better in case of disasters has already been proved. Economic and environmental forecasting, frequently practised in many developed countries, takes into account the possibility that such events may occur, and tries to minimise its effects. Sustainability also includes the strengthening and the capability to recover after inevitable and unpredictable accidents.

7.4 Factors for the achievement of the scenario for development at a constant rate, the competitiveness scenario:

In order to achieve the goals presented in the plan for the development at a constant rate, the evolution of certain primordial factors would need to be examined, since these factors are the pre-requisites for the growth in GDP, but also for the ways in which this can be achieved:

a) Without the **acceleration of the pace of property changes and guaranteeing private property**, long-term investments and sustainable development cannot be achieved.

Private property stands at the core of efficient and profitable development of any economic activity. Private property stimulates the entrepreneurial spirit of all economic agents and of the population, and this is the basis of development in any sector of the economy. This development at the level of private entrepreneurs should take place according to the parameters proposed by the sustainable development model.

Private property must be ensured by the Constitution, but also by the organic laws. The growth of the private sector is also required (privatisation of big enterprises, land etc.).

At the same time, public property, the role of which is well known, should not be in opposition to private property. On the contrary, it should help in the creation of a business environment that will maximise the profit of private entrepreneurs.

b) **Investments** must benefit from a legal framework that will ensure the opening of the market to direct investments, the liberalisation of the movement of domestic and external capital, thus increasing investments for environmental protection and for the improvement of technology.

The development of a country depends on the generation of gross fixed capital as a starting point for the accumulation process, which is different depending on the level and rate of growth in each country.

Considering Romania's economic potential and its need for a sustainable development, the average investment rate must be of at least 20.5% between 2000 and 2005 and 25% between 2006 and

2020. All developed countries initially promoted active investment policies that involved high rates of gross fixed capital formation. The proposed scenario has in view not only the need for a high rate of accumulation, but also the investment policy that would favour the growth of branches and sectors with high added value, and that require a large amount of science and technology (science intensive). This would improve domestic and external efficiency and competitiveness, the amount of investment effort being positively correlated with the average rate of the GDP growth.

The level of investments is influenced directly by the process of internal savings as well as by the attractiveness of the national economic environment that attracts the interest and efficient absorption of foreign investments.

The increase in the level of income will influence domestic savings and, implicitly, the investments. In this framework, the savings of the population will play an increasingly important role. This process will probably be stimulated through fiscal and financial policies. To this a more equitable distribution of income, which would reflect the consolidation of the middle-class, should be added.

A new attitude towards investment has been seen among the economic agents, based on the prerogatives and potential of private property, of free enterprise and strategic management.

The need to ensure **investments from Romania's own resources**, based in principle on domestic savings, should constitute a primordial, decisive factor.

Foreign capital investments, although playing an important role, cannot replace the domestic investment effort, their complementary character being absolutely necessary for the development of the domestic market for goods and services.

The efficient allocation of investments by sectors, branches, and fields will be realised to an increasing extent, based on the signals of the market and competition mechanisms.

Essential for sustainable development is the realisation of a long-term investment plan, unperturbed by the haphazard course of events and extra-economic factors, that minimises the volume of unfinished investments and the amount of time needed for the implementation of investment projects.

The radical change in lending policies for investments, i.e. **the substantial increase of medium- and long-term term loans**, is of major importance. Another method is the more frequent use of accelerated repayment as a source for investments, in line with the requirements to avoid the use of obsolescent or outdated technology. Last but not least, sustainable development involves regional investment policies appropriate for the objectives of territorial planning, economic and environmental efficiency.

c) The workforce and employment, the human dimension of the sustainable development gain a growing importance in the long-term projections of the scenario that has been chosen in drawing up this strategy.

The **interdependence of growth/competitiveness and employment** is considered by the White Chart of the E.U., a nucleus of the new construction of Europe. Employment, as a factor and result of economic growth - measured by the intensity of employment or labour productivity, is a priority in development strategies for the first two decades of the third millennium.

In this domain, an entire set of regulations concerning the work force requires the harmonisation E.U. directives, especially concerning mass redundancies (Directives 75/129 CEE and Directive 92/56 CEE), the protection of youth in the work process (The Directive of the Council 94/33 of June 24, 1994) and the improvement and inspection of working conditions in agreement with the communitarian acquis (especially Directive 91/533 of October 14, 1991, on the employers' obligations, Directive 93/104 CEE of the Council of November 23, 1993, on the regulation of the working hours, and the Frame Directive of the Council 89/391/CEE on health protection and security in the work place, etc.)

The construction of a working economy, under conditions of integration and globalisation, will be accompanied by changes in the structure of the workforce. The main parameters of the evolution of the structure of employment will be:

? Reduction of the proportion of population employed in agriculture;
? Maintaining a relatively constant proportion of the population employed in the secondary sector (30-32%), assuming that the massive process of structural adjustment will end;
? Increasing the proportion of workers employed in the non-speculative, intermediary tertiary sector, which is inefficient.

The most important change that Romania has to face is the substantial increase in the demand for qualified and highly qualified workers, while the demand for unqualified or less qualified workers will drop.

In order to redirect the unemployed from unproductive branches, the following branches should be stimulated:

? Development, diversification and industrialisation of activities in the rural areas (small scale industry; purchase and processing and distribution of agricultural products, services for agriculture and the rural population, especially education, health, social services etc.);

? Establishing certain priorities and orienting, by means of market mechanisms, the development of certain industrial sectors towards the domestic and foreign markets (food industry, light industry, textiles, clothing, leather, footwear, computer science, telecommunications, infrastructure, civil constructions, etc.).
? Relaunching the development of services form several points of view:
  * Strengthening of some activities that could create a large number of jobs which, in turn, may generate added value: leisure industry, domestic and especially international tourism, green tourism, rural tourism.
  * Encouraging the development of new services or services that are closely connected to the functioning of the market economy: banking services, financial services, insurance services, public and private services, job market agencies, research and development services, including technological transfer; social assistance for the disabled and leisure services.
  * Introducing service products with a rapid growth potential and offering them on the international market (computer science, communications, banks, insurance, consulting and education).

d) **Shifting the emphasis of development from macro- to micro-economy**, the basis of real economy that should be a priority for the next period in order to ensure the GDP growth advanced by the scenario. In this way, the requirements for the interface between the real, nominal and average economy will be realised. This would imply stimulating the production activity at the level of enterprises, regardless of the size and type of property, in the industrial sector, as well as in agriculture.

e) **Exports and the trade balance** represent the essential correlation in the best scenario of the evolution of foreign trade, as a factor of sustainable economic growth in Romania, assuming higher levels of exports and GDP.

The participation of the foreign trade to support the plan for the development of Romania at a constant rate by the year 2020, may be organised along the following lines and stages for the interval 2000-2020, with specific goals for each sub-interval:

? 2000-2005: lowering the trade balance deficit;
? 2005-2020: maintaining within an acceptable limit the trade balance deficit; this will not endanger the balance of payments.

The sustained rise of exports requires the acceleration of reforms and privatisation, as premises for the increase of competitiveness. Encouraging direct investments of capital in production that is directed towards exports will contribute to efficient changes in the real economy and to an increase in the level of competitiveness.

The plan for competitive growth, which is part of the plan for the sustainable growth of Romania, given the fact that resource potential should be used efficiently, is based on a series of priorities:

? Accelerating the changes in the form of property by means of privatisation, appropriation and retrocession;
? Developing a public administration capable to offer efficient public services that will meet and satisfy the needs of the citizens;
? Introducing and developing a national database system for public administration;
? Developing the production of information technology;
? **Development of the national software production**;
? Ensuring the media and carriers for the primary energy, the electric and thermal power, while saving energy and meeting the consumption needs;
? Launching a national programme for public investments in infrastructure: communications, transport, civil construction (apartments, the physical base for tourism), irrigation systems, electric networks;
? Development of tourism (green tourism).
? Developing the agricultural production of cereals, vegetables, technical plants, animal breeding, food industry in order to insure the food security of the population;
? Stimulating the creation of agricultural farms of optimal size;
? Relaunching industrial sectors such as: farming machinery, equipment for irrigation, chemical fertilisers for the development of agriculture;
? Relaunching industrial sectors such as: construction materials industry, vehicles, information technology, for the development of the infrastructure;
? Stimulating the market for automobile manufacturing, devices and equipment needed for the creation of an ecologically oriented economy and society;
? Production of ecological products and services and creation of the market for them;
? Relaunching the following sectors: automotive industry, goods vehicles, public transport vehicles, textiles, leather, furniture, consumer goods, pharmaceuticals that will ensure normal living conditions for the population;

? Supporting commercial services with high added value;
? **Supporting the education and the health sector;**
? Supporting the defence industry;
? **Making loans less expensive** in order to create mechanisms and instruments for the financial market, with governmental assistance (through stimulatory policies), in order to support activities that take priority over others, according to the economic policies promoted by the government at any stage.

These priorities are based on the need to achieve the objectives of the sustained strategy (increasing the standard of living and prosperity of the population in Romania) and they can be ranked periodically, according to necessities and economic sectors.

7.5 Co-ordinates and parameters of the model for Romania's sustainable development

Redirecting Romania's development towards a sustainable development model implies a series of measures as follows:

? Ending the process of deterioration of the natural resources, the environment, and the genetic structure of the population;
? Restructuring and remodelling the size of the Romanian economy;
? Promoting a complex and coherent legal system that will ensure that political and economic reforms are put into practice, that laws are observed, that the EU acquis is applied consistently, that the obligations assumed following the European Agreement between Romania on the one side, the European Union and its member countries, on the other side (free circulation of goods, capital services and people, competitive market, the harmonisation of national legislation with the legislation of the European Union, especially regarding environmental protection, etc.) are met;
? Application of a set of efficient measures for social protection in the critical phases of the economic restructuring and re-dimensioning.
? Development of instruments and regulatory capacities for the activities of the market economy aimed at changing the social structure, creating a large middle class and reducing the poor classes;
? Development of a flexible and functional education system and a system for the training of the human resources, including the education of politicians and decision-makers in the spirit of a holistic approach and long-term cost-benefit analyses for sustainable development in Romania.
? Establishing a system of sustainable development indicators to include state-pressure-response, to combine economic growth indicators with the quantitative and qualitative aspects of the conservation and sustainable use of natural resources in order to assess the market value of the services and resources based on natural capital, and of the economic instruments and mechanisms, with a view to promote viable, long-term solutions in every social and economic sector;
? Creating a supple institutional infrastructure, consisting of departments whose responsibilities are complementary and clearly defined, in order to avoid parallelism and overlapping;
? Creating civil society institutions to operate as interfaces between governmental structures, local and public authorities;
? Creating a partnership between the structures of the state, the private sector and society;
? Decreasing the rate of exploitation of non-renewable resources. This can be achieved by promoting, in the process of economic restructuring, technologies requiring lower consumption of raw materials and energy, and by collecting, recycling, and re-using waste. The effect should be amplified by complementary research into alternative raw materials and energy;
? Developing science and technology capable to examine and use the productive and supportive capacities of the natural capital and to create technologies specific to the sustainable development: technologies capable to minimise the consumption of raw materials and energy and reduce the production of waste, respectively, and also capable to use alternative sources of raw materials and power. Technologies for the collection and recycling of waste; technologies capable to neutralise toxic waste or to help safe storage of toxic materials; bio-technologies for the rehabilitation of polluted soil, water, etc.;
? Developing the information technology to assist the development, the policies, strategies, and plans for action and decisions;
? Gradual reduction of the deterioration of the quality of the air, water, and soil until the optimal level for the processes of life is reached;
? Balancing the age structure and improving public health;
? Developing a system capable to monitor the development of the social-economic system and the components of natural capital, including the quality of life, air and water, in line with the other indicators of the sustainable development.

Key actions and commitments of the government in order to realise more with fewer resources:

- Relaunching investments.
- Continuous support for education, health services, public transport and construction of housing.
- Establishing a fiscal system that will enable the public to use public loans for investments and not for consumption.
- Stimulating competition in the economy.
- Developing industries that protect the environment.
- Initiating certain processes that will help the public realise the need for environmental protection and the conservation of natural resources.
- Defining strategic options in tourism, in line with environmental protection.
- Continuously increased efficiency in the use of resources.
- Promoting certain programmes for recuperation, utilisation and recycling of materials and waste.

CHAPTER 8

Economic Policies for Sustainable Development

The elaboration and promotion of economic policies concerning sustainable development in Romania stem from the need to establish an inter-relationship between economy and society as a whole, with the aim to increase prosperity and well-being at the individual and community level, on a long, medium and short term. All this has to occur in the context of the maintenance and the quantitative and qualitative protection of the country's natural capital, in order to fulfil the requirements and needs of the future generations.

The strategic objectives and national policies of sustainable development are based on the integrated ensemble of the 27 principles, to be found in the 1992 Rio de Janeiro Declaration on environment protection and development. This declaration gives special attention to the aspects stemming from the fact that Romania is a developing country.

Considering the present crisis and the prospective national interest, these objectives fit into the following time scheme:

a) Short term: putting an end to the economic decline by means of stimulative measures that include savings, investments, services and goods production, exports, and abandoning the unprofitable production.

b) Medium term: restarting the sustainable economic growth programmes through economic and technologic restructuring programmes, bringing the privatisation process to an end, and creating the conditions to allow the integration of Romania into the E.U.

c) Long term: fulfilling the general strategic objectives regarding human development, by measures and programs that concern:

* **The growth of GDP/per capita**, in an efficient dynamic structure that will strengthen the middle class, will distribute economic, social and ecological costs evenly, will increase social cohesion, and will also bring Romania closer to the level of the developed countries.
* **Lower unemployment to its natural rate** and stimulate employment as a self-protective measure.
* **Reduce inflation** in order to minimise the negative effects it has on the market economy and on the private enterprise capacity.

These long-term objectives will have specific forms on the short- and medium terms, and presuppose policy mixes that enhance the efficiency of the market mechanisms and of the institutions.

At the same time, Romania will take part in the conservation, protection and reconstruction of ecosystems. It will also have in view the responsibilities regarding the proportional contribution to the environment degradation, the necessity of eliminating poverty, and the narrowing of the existent gaps between countries.

8.1 A new economic approach

The present economic crisis is due to internal, external, objective, and subjective factors, but also to the incorrect approach to the problem of the transition to the market economy which had no regard for the balanced economic development and the conservation of the environment.

The new economic approach, proposed in the framework of the sustainable development strategy, has at least **three distinct elements**:

a) **Systemic integration of the environment protection and the natural capital efficiency** in development processes, giving special attention to preventive measures against environment degradation and increased pollution; it also concerns rebuilding the environment factors;

b) Setting of long-, medium- and short-term **priorities, objectives, programmes, measures and policies** according to the field of activity. These are operational and convergent with the SD objectives at a macro-economic level, thus revealing the connection between effects, results and costs, as well as the possible funding sources;

c) **Peace, co-operation, development, and environment protection are interdependent and indivisible** in order to sustain national economic development.

For the first time since 1990, Romania is drawing up a national SD strategy, in which the most important interest groups are participating. This makes it viable in the long term. The economy and protection of the environment assume roles of paramount importance, and both will determine the elaboration of programmes and of implementation means at different levels of the economy.

8.2 Financial policies

The principle of internalising externalities

The implementation of sustainable development policies in Romania is directly connected to the strategy concerning transition to a market economy, the pillars of which are privatisation and efficient restructuring of the economy, ecology, and society.

In this process, a special part is played by the "**the polluter pays**"-principle (PPP), based on internalising the marginal external costs and damages to the polluter, as well as internalising the external fringe benefits to their generator. This should happen in different ways, and using various instruments offered by the competitive market and/or by means of regulations at the local, national and international level. By the internalisation of costs, a reflection of the total social costs is determined by market mechanisms.

The internalisation of costs at the polluter level has as a main target the introduction into the economic system of some price signals that reflect the environmental costs, according to their socio-economic dimension and their seriousness, classified by areas and environments in Romania. PPP stems from the need to ensure a common cost allocation principle for environmental policies, a principle that is defined as non-subsidy.

Internalisation of marginal external benefits will use corrective subsidy schemes for those economic operators that put at an advantage third parties and the environment for which they do not pay.

With expanding pollution, special attention will be given to cost internalising (for the polluter) schemes and policies. This will be done by corrective taxes or other means. (However, this will not rule out the positive externalities inclusion by corrective subsidies).

Economic instruments

As the market economy will expand more and more, economic instruments will be applied to a greater number of economic operators.

The economic instruments and methods used for ensuring SD offer signals to the market in the shape of changing relative prices and/or of financial transfers.

The economic instruments used to this effect will offer the economic agents (polluters) the freedom of choice in selecting the best solution, either to pay the pollution tax, or to invest in the control and/or decrease of pollution by introducing clean technologies.

The main economic-financial instruments that will be used are:

? Taxes and payments for air, noise, water and soil pollution;
? Payment by the user, as a way of funding the local authorities for the collection and treatment of solid waste and contaminated water;
? Taxes and payments for the production, consumption, and storage of polluting services and goods;
? Registration taxes for high pollution risk products;
? Commercial pollution permits, based on the supply and demand for permits, according to the pollution level;
? Limited subsidies, in justifiable cases and only for a limited period of time.

The greatest benefits derived from the use of these instruments will be the automatic adjustment of pollution to the level of the taxes, cost efficiency, flexibility, higher income and preservation of resources for the future generations.

The SD strategy in Romania will be based on a **mixed policy system** where the economic-financial instruments will be used as complement to the direct regulations, thus offering better possibilities for the control of pollution, and income sources to fund the environment protection.

Depending on environment factors or the degree of pollution, a variable combination of regulations and economic-financial instruments can be used, in line with the United Nations' "Agenda 21" on Environment and Development.

The introduction of economic instruments will depend on their political acceptability and on the fiscal reform that will have to take into consideration the introduction of the Eco-Tax system and to co-ordinate it with the existent fiscal practices.

On the other hand, fiscal neutrality, practised in the market economy, can only exist in an almost perfectly competitive market. Because of that, the changes in the fiscal regime in order to correct market failures are consistent and fully compatible with the definition of the fiscal neutrality in real terms. The eco-tax objective is not neutral, but aims to positively influence the polluters' behaviour and needs differentiation.

The action plan sustaining the national strategy will take into consideration a series of eco-tax-related difficulties and legal problems, whose nature may be technical (lack of knowledge, difficulties in

monitoring emissions, and adjustment to specific area conditions, need to adapt to inflation), political (pressure groups, opposition from polluters), distributive (concern over the impact on underprivileged classes), institutional (hard-to-adopt measures), or may regard international trade.

The introduction of economic-financial instruments in the SD policy will be realised in order to achieve the following aims:

- correcting government failures;
- creation of adequate economic and financial structures;
- defining, granting, and respecting property rights;
- supporting reform processes and economic reform;
- equal treatment for the private and public sector;
- combining the economic instruments that stimulate the growth of income with the fiscal reform and public regulations.

Financial mechanisms and resources

Funding the sustainable development process in Romania, in order to achieve the aims established in the strategy, presupposes a financial effort, to which the economic agents and the state must give their share. This effort can be supplemented by other institutions and national or international organisations.

In dimensioning this effort, the costs of all the projects to be included in the future National Action Plan (in support of the National Strategy) will have to be considered. A considerable proportion of the costs will be taken by the need to cover the environment protection and conservation.

Financial resources for the sustainable development of the country will, in principle, come from the companies themselves. Apart from specific projects, this money will be spent on the introduction or perfection of pollution fighting technologies, designing ecological products, preventing and curbing down pollution, payment of taxes, etc.

Another source for the environment protection spending comes from the **state budget and from income generated by privatisation** of state assets, in line with the policy adopted regarding sustainable development.

Apart from self-generated funding (either at company or at state level), Romania's sustainable development can also be funded with **reimbursable and non-reimbursable credits**, as well as with foreign assistance obtained through specialised financial agencies.

It can be observed that the largest part of the environment protection spending consists of current spending (two thirds), followed by investments (one third). A relatively small percentage is spent on research, development, education, and general administration of the environment.

Of the total pro-environment resources, it is estimated that foreign ones will be as high as 10-15% annually, which means that the **national effort will be vital**. In order to reach the aims targeted by sustainable development, where ecological criteria play a central role, development being possible only within the limits of natural capital, it is necessary to examine all funding possibilities for environment protection and reconstruction. The amount of required funding will have to be co-ordinated with the investment effort, which is needed both for the environment and for the development of other economic activities. In this context, attracting a higher number of direct foreign investments in Romania, as well as the transfer of technology, will be encouraged by national policies that will attract investments through joint ventures and other means.

At the same time, new ways of funding will be examined, such as private funds, foreign credits, and the use of economic incentives. In this context, it is reasonable to create a **specialised institution for funding environment projects**, which is not exclusively oriented towards profit maximisation, but only towards income and benefits optimisation in an economic and ecological sense.

8.3 Development of the private sector and the Small and Medium Enterprises

8.3.1 General considerations

In the private sector, small and medium enterprises hold a key position. They present particularities with relation to property, management, funding, functionality and performance that differ significantly from those seen in the state and publicly owned enterprises. Consequently, the strategy regarding SMEs must:

a) Take into consideration the particularities of the SME sector, which implies objectives, strategic approaches, resources, specific deadlines;
b) Harmoniously integrate the development of the sector in the total economic evolution of Romania, based on a national global strategy, focused on sustainable economic growth.

8.3.2 Premises

SME development in Romania has to have in view the following premises:

? The SMEs constitute the most powerful, dynamic, and profitable economic sector in Romania and they have the best development perspectives;
? The rapid and ample SME development is a precondition for the fundamental restructuring, privatisation and de-monopolisation of the Romanian economy;
? The private SMEs are the only sector that can create employment in order to absorb the workforce made redundant from the state sector, as a consequence of modernising and restructuring;
? The private SMEs are the main sources for the formation of a middle class, playing a decisive role in ensuring social stability in Romania;
? Due to their specific qualities, SMEs and state enterprises must be approached differently, with special emphasis being placed on strategy and policy;
? Harmonisation of SMEs development strategies and policies with those addressing general economic policies and E.U. SMEs.

8.3.3 Main causes affecting the development of SMEs

When drawing up the SME strategy, the factors that affect their development and performance must be identified, in order to eliminate or substantially diminish them. These factors are:

? Lack of access to facilities and of equipment which is not used by the state sector;
? Lack of development credits and difficult access to current credits;
? Complex taxing system;
? Lack of investment, development and export incentives;
? Discrimination against SMEs as compared to state firms;
? Extensive bureaucracy regarding the creation and liquidation of firms;
? Limited contacts with foreign partners;
? Decisions and actions undertaken by the central administration often have negative impacts on the SMEs;
? Difficult access to domestic and foreign economic information;
? Insufficient managerial and economic training of the entrepreneurs;
? Low level of enterprising spirit among the population;
? Excessive and unjustified SME controls;
? Incomplete, confusing and complicated economic legislation;
? Weak associations of SMEs which are not capable of protecting and promoting their interests;
? The absence of a national organisation with government and entrepreneurial participation to deal with the specific problems of the SMEs;
? Scepticism and even hostility shown by the public with regard to entrepreneurs and private SMEs.

8.3.4 Main resources and opportunities for SMEs

A second starting point in devising the SME strategy is the acknowledgement of the main resources and opportunities for the development of the SMEs, which currently exist in the Romanian society and economy. Essentially, these are:

? Around 40% unused space and equipment in the autonomous and national companies (state owned);
? Romanian entrepreneurs' will to invest much time and effort in SMEs;
? Good general and professional training level of the Romanian population;
? Existence of important resources for SME activities: oil, natural gas, coal, stone, woods, water, etc.;
? Excellent natural conditions for tourism and agriculture;
? Considerably large domestic market consisting of 23,000,000 consumers;
? Romania's geo-strategic position at the crossroads of important traffic routes and communications nodes;
? A high standard educational system, with good potential;
? Existence of a great number of institutes and centres for research and development;
? Credit lines for export, funded by international banks, developed through Romanian banks, which offer foreign currency credits to certain categories of SMEs;
? Low interest credits and other facilities offered by the Labour and Social Protection Ministry to the SMEs that take on unemployed workers;
? EU assistance programs;
? The creation of certain financial institutions, such as the Romanian-American Fund;

? The accelerated rate of privatisation and the restructuring of Romanian economy will be reflected in new technical-material, human, and communications resources, as well as in niches created in the market for SMEs;
? Creation of legislative, institutional, and economic systems capable to offer a better framework for the activities of the SMEs.

8.3.5 Objectives and directions of action

Starting from the factors influencing the development and the available resources and opportunities for the SMEs on the one hand and having in view the realities and economic approaches to the problems in the E.U. countries, USA, and Japan on the other, we advance a strategic objective: a suitable environment for the creation, running, and development of the SMEs.

To this end, the strategy must be oriented in the following main directions:

? Access of private SMEs to production equipment and facilities that are not used by state societies or national companies. These activities should be regulated through leasing or lending.
? Differentiation of profit tax, according to the field of activity and the profit cleared.
? No taxation on profits reinvested by SMEs operating in industry, agriculture, construction, transport, and telecommunications; cutting taxation for profits reinvested in services and trade sector by 50%.
? Incentives for job creation and for exports by SMEs, by granting fiscal facilities.
? Granting of fiscal facilities to SMEs that invest in areas with a poor economic infrastructure, have been restructured, or are poorly developed.
? Transformation of a state bank into a development and investment bank for SMEs, in order to facilitate medium and long-term credits.
? Gradual creation of a granting and co-granting fund system at a national and regional level in order to finance the SMEs.
? Direct and permanent participation of entrepreneurs in governmental economic bilateral and multilateral international meetings.
? Creating a national data bank specialised in SME problems.
? Systematic organisation of training programs for entrepreneurs, managers, and executive personnel employed by SMEs.
? Introduction of entrepreneurial-managerial subjects in secondary school and university curricula.
? Creation of a well-developed network of consulting and managerial training centres financed from the state budget.
? Directing a significant part of research and development activities to solving the problems affecting SMEs.
? Development of a national network of business thinktanks and science parks.
? Inclusion of representatives of SME organisations in the leading organisms of the central and local public administration.
? Organisation of a national media campaign to improve the entrepreneur's image, in order to perceive him as a major symbol of the market economy.
? Encouraging the development of representative SME organisations.
? Strengthening and improving the activity of the SME Agency.
? Revision of economic legislation regarding the SMEs by eliminating contradicting elements and discrepancies.
? State support for consulting services that are granted to entrepreneurs in management, marketing, commercial law by specialised companies and the implementation of the ISO 9000 and ISO 14000 standards.

The realisation and implementation of a strategy for improving the performance of SMEs in the context of the Romanian global strategy depends on close and permanent teamwork between the SME Agency and the various departments of central and local administration, with economic objectives. The nationally represented non-governmental organisations of SMEs should also be involved.

8.4 Norms and standards

The adoption of the sustainable development principle for the future management of the economy implies the fact that Romania needs to overcome the barrier of the conventional.

Sustainable development is closely related to five objectives: conservation of resources, balanced development, environment quality, reduction of resource waste and collective participation.

Converting these objectives into action can be presented in the form of promoting environment-friendly businesses, in the form of clean or green production.

The threat of increased pressure on resources exercised through unsustainable activities has obviously been intensified (exceeding the eco-systems' capacity to support and adsorb the waste) by the increase in consumption. The latter was relatively limited by increased efficiency of businesses and companies that started using technologies that help decrease the pressure on scarce or vulnerable resources.

The most important element that must be emphasised is that an increasing number of companies, irrespective of their size and market share, acknowledge the need to consider an ecological business environment, rather than one that is merely competitive.

The companies should include in their annual reports a summary of any savings obtained by rational use of energy and raw materials and by avoiding the production of waste rather than having to remove it from the environment.

A particularly interesting area that exercises constant pressure on the attitude of companies towards environmental aspects is that connected to the way in which the environmental obligations are observed and approached. There are two different approaches to this issue. A conservative one, the so-called regulated practice, based on a solution within the limits of the conformation programs regarding the environment regulatory acts. This practice is known as a curative practice, from the clean production concept. On the other hand, the preventive, associated practice is in greater demand. It presupposes the companies' solidarity with the preventive principle, based on a voluntary initiative. The E.U., as well as the ISO, encourage the implementation of this environmental management system, by offering a thorough policy evaluation framework to interested companies, to enable them to use the necessary instruments for environment management. This requires a comprehensive management system that ensures the coherent, explicit and efficient implementation of environment protection policies at the company level, realised by thorough updating. One way to realise the environment management system is the eco-audit scheme. The elements included in the E.U. audit scheme are as follows: environmental policy, environmental objectives, an environment program and an environment management system, including an eco-audit programme. The environment policy at company level will include technical and organisational measures. These are supposed to provide information and data necessary for the assessment of the performances of each industrial location, with direct reference to the company's policy, objectives, and environmental programmes.

The EU eco-audit scheme

Aspects covered by the scheme include:

- The impact of the activities: evaluation, control, and prevention.
- Energy management, conservation, and choice of the most adequate sources.
- Raw materials and water.
- Decrease of waste, recycling, reuse, transport, and elimination of waste.
- Choice of production processes.
- Accident prevention.
- Information, education, and personnel participation.
- Information of the public and solving conflicts.

The evaluations based on the scheme will be included in the "list of the good practice code", and the environment audit will give special attention to the operational environmental management system.

These standards are to be applied to any organisation and they allow it to establish an efficient management system, as a basis for both the explicit performances of environment protection and the objective realisation of the eco-audit process.

Setting a solid and consistent environment policy and implementing it within the companies' framework, (based on a standard that is checked and elaborated from without), will offer to the firms adopting it the possibility to understand and to achieve a high degree of flexibility in productive activity and market presence. This will, of course, help achieve the general objective of protecting the environment.

Clean production must be realised according to the sustainable development principle, as found in the elaboration of economic development policies.

The efforts geared towards the elaboration of a world standard surfaced after the Rio conference in 1992, when NGOs pressured the industry to create a mechanism that allows for the environment management.

Special attention was given to the Environment Management Systems during the last few years, by establishing international standards in the field. The British Institute did the pioneer work in this field for Standard Setting, which published and elaborated the BS standard 7750 in 1994. This initiative was followed by the elaboration of the Eco-management and Audit (European Management and Audit

Schemes –EMAS) and subsequently, the ISO 14001 standards were adopted at a global level. All this led to an extremely dynamic orientation of the organisations, which exceeded the initial interest in adopting the ISO 9000 standards. It is highly likely that the EMAS rules will be harmonised with the ISO 14001 standards.

ISO 14001 was elaborated with its applicability at a global level being the main objective. The implementation of this standard has already become widespread. However, Eastern European countries show reluctance in applying ISO 14001.

ISO 14001 is part of a series of standards for environment management, elaborated by the 207 Technical Committee at the ISO level. ISO 14001 does not certify products, but only processes and is based on the following principles:

? Environment policies.
? Planning.
? Implementing and functioning
? Verifying and application of corrective measures.
? Reviewing management.

The following elements give a global image of the composition of the standards:

Environmental policy: the elaboration of an official declaration thereby the obligations regarding the environment problems of the enterprise or organisation are clearly stated. The use of this policy as a framework for planning and action.

Environmental aspects: the identification of the environmental aspects generated by products, activities and services supplied by the firm. The identification of all aspects that could produce a significant impact on the environment.

Legal and other types of requirements: identification of such requirements and ensuring access to the relevant laws and regulations.

The environment management program: planning of actions by which objectives and aims can be achieved.

Structure and responsibilities: establishment of functions and responsibilities; securing resources.

Training, awareness, and competence: making sure that the employees are trained and able to fulfil their duties towards the environment.

Communication: establishment of internal and external communication processes for the environment management problems.

SME documentation: securing information regarding SMEs and adequate storage of the documents.

Document control: ensuring an efficient management of procedures and other documents regarding the SMEs.

Operation control: identification, planning, and management of activities and operations according to the policy, objectives and goals set by the enterprise.

Preparedness and response (emergency plans): identification of possible emergencies and elaboration of prevention and reaction procedures.

Survey and measuring: survey of essential activities and checking of performances.

Non-conformity, corrective and preventive actions: identification and correction of problems and prevention of their incidence.

Records: keeping adequate documentation regarding the performances achieved by SMEs.

SME audit: periodical checks of the SME's operating in accordance with the stated intentions.

Reviewing management: periodical reviewing of the SME's activity having in view the concept of continuous improvement.

The implementation of a system for the management of the environment based on the ISO 14001 standard helps reducing the risk of accidents with an impact on the environment. In this way, the clients can trust the enterprises involved in production after they had made the commitment to continuously reduce the effects of their activity on the environment.

CHAPTER 9

Social policies

The substantiation and promotion of social policies is realised on the basis of the provisions of the Constitution of Romania, and of the international treaties Romania has signed, respecting principles such as:

? Respect for human dignity;
? Elimination of all forms of discrimination from the social security policies;
? Promoting of social partnership as a way to control and improve all social security measures and policies; flexibility, and the adoption of social protection measures, respectively, to meet the real needs of all the social groups and individuals;
? Social policies should help mobilise all social classes in order to achieve economic growth;
? Gradual decentralisation of social security mechanisms and, at the same time, engaging commercial companies, local public administrative units, governmental and non-governmental institutions, charities, and private persons in social work, by means of financial, social, and other contributions, within an appropriate legal framework;

The general objectives of the social reforms are intended to maintain a certain balance between resources and needs, between reform measures and the maintenance of existing systems, between protection and self-protection, between the needs of today's generation and those of the generations to come.

Social practice demonstrated that limited natural resources reduce the capacity to promote social policies, with the social protection remaining inappropriate with regard to needs.

In this context, the strategy for a sustainable development is conceived in a uniform system in which the economic and social aspects must keep a perfect balance.

9.1 Labour legislation

In order to adapt the legislative and institutional framework to European norms, the Romanian Parliament ratified the Revised Social and Economic Charter, a fundamental European document regarding the social rights of citizens. This document will ensure the harmonisation, in this respect, of the domestic legislation with European standards. Regarding labour relations, the existing legislation has been changed and new regulations have been introduced (solving labour conflicts, collective labour contract and the right of foreigners to work, the status of Romanian citizens working abroad, settlement of differences and litigation cases in the field of labour and social protection).

In 1998, the law regulating the partnership between government and society came into force. This partnership will be achieved with the financial support of the social services units established and administered by registered associations and charities in order to improve the quality of social services and to increase social solidarity. In order to make the social dialogue between the government, trade unions, and employers possible, the "Economic and Social Council" was established. This is a tripartite, autonomous body, which has a consultative role in the establishment of socio-economic policies and the settlement of conflicts between social partners.

The long-term strategy is concerned with a new "Labour Code", that will contain the entire legislation in this field, which is harmonised with that of the European Union, but with some national particularities.

9.2 Policies regarding the work force

a) Policies regarding the employment of the work force

The delay in the implementation of real reform policies capable to balance the workforce market led to an unemployment rate of 10.2% at the end of 1998, with the tendency to increase a situation which can cause serious social consequences.

For the workforce that was made redundant following the restructuring of inefficient commercial companies and autonomous regies, a special programme comprising new services was adopted. This plan also includes compensations for this category of unemployed.

In order to create jobs for the unemployed, a special programme for the control and curbing of the unemployment is implemented. This programme includes placement services, professional counselling, information regarding the labour market, job clubs, job hunting strategies, training and re-training, counselling and assistance for small businesses, public services, planning of local economic development, services for the setting up of businesses, etc. Special attention was given to disadvantaged areas.

Currently, an essential element of employment policy in Romania is the reduction of employment on the black market (according to present estimates over 2 million individuals are employed on the black

market). This problem can be solved by implementing the "Labour Inspection Law" which introduces punitive measures, the inclusion of trade unions representatives on commissions for the analysis and control of the implementation of the law, as well as by lowering income taxes (with a positive impact on the budget).

The medium-term strategy has the following objectives:

? Implementation of the "National Action Plan" for employment, which will establish employment policy priorities for the years 2001-2002 after consultations with social partners;
? Diversifying and increasing the number of active unemployment control policies;
? Attracting external resources to finance active and passive social protection measures;
? Developing training and re-orientation programmes as well as specialisation of professionals, with particular emphasis on the improvement of training quality;
? Supporting enterprises in an attempt to create more jobs;
? Developing measures for the protection of the social groups most likely to be affected by unemployment (these measures will follow from the strategy for a sustainable development);
? Monitoring and evaluating employment policies and implementation of structural and institutional adjustments to the labour market, which are needed for the harmonisation with the European employment policies, based on “Guidelines”.

The long-term strategic policies will be focused on:

? Programming, managing, financing, monitoring, and controlling those projects that are eligible for support by the European Social Fund;
? Implementation of the law on the professional education of adults;
? Selecting the specific problems related to disadvantaged and vulnerable areas or social classes;
? Active measures for the control of unemployment should outweigh passive measures.

b) Wage policies

As an element of social policy, wage policy should be determined on the basis of elements that determine the standard of living (the daily basket and other components of daily expenses, the subsistence level, the poverty level, and the level of a decent standard of living).

As regards the wage policy, its influence on the economic development should be considered. An increase in wages (currently the predominant element in the structure of the population's income) will determine an increase in consumption; this in turn will increase demand and stimulate production.

Currently, wage earnings are low and this influences the purchasing power. Consequently, the minimum wage fixed by legal authority is 28.2% of the net average wage in the economy and the real salary in January 1999 represents only 58.56% of that paid in October 1990.

In the domain of wages, the following strategic measures are taken into consideration for medium and long term:

? Modification of the regulatory system and remuneration of work in a competitive way, by eliminating restrictive provisions from the "Wage Law", so that free wage negotiations can be implemented; this will ensure that salaries evolve in the same direction as the productivity;
? Implementing a system to determine wage rights based on performance criteria specific to the activity sectors from the public domain;
? Regulation of the remuneration for civil servants in line with the provisions of the "Status of the Civil Servant";
? Guaranteeing an average annual rate for the increase of the nominal wage, a similar increase of the real wage index, correlated with the annual evolution of total consumption per capita and with the evolution of the prices for consumer goods;
? Establishing the minimum wage for the entire country based on minimal socio-economic indicators.

Insofar as the minimum incomes are concerned, they will ensure the minimum standard of living and will increase with the economic growth. In order to ensure balance, the increase of the minimum wage is necessary so that the ratio between the minimum and the average wage will be kept within reasonable limits (it should not be less than 40%).

A further element that influences the level of wages and incomes is the fiscal policy, which has to be permanently correlated with the wage policy.

9.3 Social Protection

a) Social Security

Because of the steady ageing process caused by the demographic evolution, the long-term goal of the social insurance system reform is to solve the so-called “conflict” between redistribution and insurance by securing personal savings.

The current system functions based on the transfer between generations.

The parameters that currently characterise this domain are: the emphasis on the negative relation between the number of contributors to the pensions fund and the number of beneficiaries, the discrepancies between different categories of pensions, between the level of the average retirement pensions and the average wage in economy, the problems encountered by the social insurance funds.

The creation of a retirement pension system based on the following four pillars could solve these problems:

? The system of public pensions and other social insurance rights, a unique system guaranteed by the state, based on redistribution. This system will be managed by an autonomous institution, the National Social Insurance House, which will have an administrative council consisting of representatives of the national trade unions confederations, employers' organisations, national organisations of the retired persons, as well as representatives from governmental institution dealing with pension problems. Once the public system is reformed, all pensions fixed according the previous legislation will be re-calculated, so that an adequate correlation between these and the new pension derived according to the new provisions in the field will be achieved. The formula for this re-calculation involves establishing certain quotas for October 1990 and the multiplication of these amounts with a factor representing the increase of consumer price index since October 1990, until new laws are implemented.

? The universal pension funds managed by private institutions offer new possibilities for the increase of pensions by supplementing the basic protection offered by the public system, and by promoting a stable mechanism that will oppose demographic and macroeconomic pressures. Pension funds will be mainly invested in the Romanian economy.

? Supplementary insurance schemes that create a legal framework for the payment of supplementary pensions, different from the pensions payable by the public pension system and the universal pension fund. These types of supplementary schemes could be set up and maintained by employers for their employees and syndicates for their members.

? Additional benefits for the pensioners who are currently receiving benefits form the public pensions system will be supported by a special fund established by the government's bonds or options held by economic agencies that have not yet been privatised completely. This system will be managed by a private institution. The transfer of bonds or options will speed up the privatisation process significantly, and at the same time will supplement the services offered by the public pensions system.

Since the creation of private pension funds has as its main goal the protection of the contributors to these funds, an independent body should be established - The Commission for the Control of Pensions - that will oversee the activity of the institutions involved.

The two laws for the pension system reform are currently being debated in Parliament. One of these laws reforms the public pension system and the other creates privately managed universal pension funds. These laws will probably be implemented by 2001 and will profoundly change the pension system in Romania as well as cause an impact on the budget and economy:

? The sustainability of governmental finance will be improved in the long run;

? The transitory deficit of the budget for social state insurance, which implies the transformation of 10% tax into a 10% contribution to a universal pension fund, could be financed without adversely influencing the inflation and interest rates;

? The reform of the public pensions system, combined with the introduction of the private universal pension fund, will increase the total savings and the investment rate from the first year of its implementation.

If the proposed reforms of the public pension system and the introduction of private universal pension funds are applied, they will also lead, on medium term, to the correction of a previously unsustainable budget. The public pension system's reform correlates the current value of public debt with the one of revenues. Combining this measure with the introduction of the private universal pension funds will increase savings and investments in the Romanian economy.

b) Health insurance

The reform of the health insurance system has as its main objective decentralisation and the improvement of the funds collection system (the required legislation has existed since 1997 and 1998).

The financing and financial management of the new health insurance system in based on the autonomy principle. The goal of this autonomy is to enhance efficiency and the quality of the health system's services. The implementation of this system should be accelerated.

9.4 Social assistance

The main goal of social assistance is to help those that need assistance in order to survive financially, helping them to develop their own potential for a normal life.

The "Social Action Law" will set the basis for legislative reform.

Institutional reform will be brought about by the founding of the "National Social Action House" that will manage the funds for the payment of family allocations, reparative payments, social welfare, and special aid. The regulation of the legal relation between volunteers and the institutions in which they work will be determined by the law regarding the "Volunteer Activities in Social Assistance".

The law regarding the "Establishment and Usage of the National Solidarity Fund" will provide the resources to ensure the diversity of social services and an increase in the amount of social services offered.

The national strategy on eradication of poverty has set its main short-term objective to eradicate extreme poverty. The medium term goal is to stop the impoverishment process, and the long-term goal is the reduction of poverty to an extent that is acceptable at the socio-economic and political level. The intervention of institutions capable to provide assistance to those individuals and social groups that truly need support will be secured based on the monitoring and reviewing the actual social and material situation of those persons.

Within the framework created for the development of social services, the following programmes will be developed:

? The programme regarding the socio-professional integration of young people leaving orphanages or other social assistance institutions;
? The programme of social assistance to support the families that have abandoned their children;
? The programme for the support of persons without shelter or for the establishment of facilities offering temporary shelter;

Dependent elderly people will be provided with diversified, personalised, and high quality social services.

9.5 Health and the safety at the place of work

Strategic objectives to achieve the safety of work:

? Establishing and organising "Labour Inspection" as a body for the control regarding the application of the regulations of labour relations and the protection of workers from the point of view of health and security in the workplace.
? Establishing a specialised system of insurance for accidents and illnesses caused at work; this will stimulate employers to invest in improving work place conditions and safety.
? Developing a system for the certification of the quality of health protection, safety at the place of work, the safety of equipment and individual protection equipment. This system should also acknowledge the competent bodies that will be responsible for the kind of certification mentioned above, in line with the legislation in force.
? In order to realise institutional reforms in the area of labour protection, the National Council for Health and Safety of Work will be created.
? Monitoring the working conditions in enterprises and implementation of measures for the compliance with legal norms.
? Including in the Romanian legislation the E.U. directives referring to the protection of workers against the exposure to certain harmful substances.
? Creating the National Insurance Fund for accidents in the workplace and illnesses resulting from the working conditions.

9.6 Social dialogue

The implementation of a coherent social policy programme, the application of measures and the assessment of the results can be achieved only if civil society is continuously consulted. The dialogue between the representatives of the administrative bodies and those of trade unions and employers' associations will be accomplished both in an institutionalised framework (the Economic and Social Council, the National Employment and Training Agency in the commissions for social dialogue of these councils and the Department for Social Dialogue that monitors the activity of commissions from ministries and prefectures) and independently as well.

CHAPTER 10

The institutional framework

The creation of an institutional framework to allow the implementation of the National Strategy for Sustainable Development presupposes an adaptation of the public authority structure at executive level and a permanent co-operative and partnership relation to all segments of the society.

The government will survey the implementation of the strategy through ministries, governmental agencies, and autonomous organisms and will co-ordinate the elaboration of strategies in different fields. An important role will be played by the National Regional Development Agency, which, by proposing concepts tested in 8 development regions, will provide the framework for the implementation and assessment of a sustainable development policy in a regional context. A limit and control of regional imbalances will be especially surveyed by the implementation of the Local "Agenda 21". The creation of a non-governmental institution is necessary, so that it can function as an interface between governmental institutions, local authorities and the public.

A specialised department of the government structure will manage the activities that concern the survey and conclusion of the sectorial strategies. This unit will monitor the progress of sectorial strategies in each ministry and governmental agency or autonomous organism, and will ensure the participation of the civil sector within their framework.

Through ministries and governmental agencies, the Government will have to define its definite plans of how to implement sectorial strategies, based on the "Agenda 21" and will set the priorities both in time and space, according to the National Action Plan. Also, at governmental level, a thorough cost/benefit analysis will be made for various proposals of specific projects, in order to attract funds from domestic and external sources.

The development of a modern, efficient public administration, in agreement with the principles set by the EU and capable to ensure a sustainable development, is based on three important pillars:

? Diversity, quality, and efficiency of public services supplied;
? Professionalism, flexibility of civil servants with a view to improving the relations between administration and the public;
? Reliability of the institutional structures which are part of public administration, thus ensuring an efficient governance.

The public administration reform will be an essential condition in order to ensure the success of the National Sustainable Development Strategy.

The basic principles have in view that the reform in public administration will:

? be responsive to the ***fundamental needs of society*;**
? work and operate in a ***continuous and regular regime***;
? have a ***universal, equal, and non-discriminatory character*** for all beneficiaries, irrespective of the geographic location with relation to the access to public services;
? exert a transparent management;
? ensure social justice by adopting financial and fiscal policies aimed at maximising the access for beneficiaries of services.

Public services reform aims to achieve the following objectives:

? Satisfying the public's requirements at a high quality level;
? Definition and classification of public services;
? Decentralisation of public services;
? Development of public-private partnerships;
? Limitation of bureaucracy in public services;
? Development of public services for environment problems at a local level;
? Introduction of a national information system in public services.

The reform in the field of public services has to redefine and conceptualize the way in which public services are organized. To this end, there is a need for clear and coherent links between aims and procedures, as well as the regulation of relations between the providers of public services and beneficiaries. To achieve these objectives, legal norms will be elaborated in order to:

? Demonopolise public services
? Introduce the concept of fair competition in public services;
? Decentralize public services that have to function according to a set of compulsory norms;
? Eliminate bureaucracy in the public services activity.

The public administration's capacity of putting the socio-economic reform process into practice requires the creation and development of a specialist and highly trained staff.

The perception of the public services by the population is mainly influenced by the promptness shown in solving citizen- or community-related problems, by the way the public servant as a representative of the administration establishes relations with the public. The efforts of the government are chiefly focused on such problems and especially on the professionalism of civil servants.

In order to improve the public services' image and quality, the legal and institutional framework has to be completed with the application of certain principles:

? ***Neutrality*** of the public servant;
? ***Equal opportunity in the enrollment into and promotion within the public services.***
? ***Elimination of discrimination among civil servants*** on ethnic, sex, religious or other grounds;
? ***High efficiency*** in the activity of civil servants;
? ***Stability and career security*** for public servants.

Human resources management in public administration has the following objectives:

? To create and develop a corps of public servants whose professionalism should be in harmony with the European standards;
? To adapt and improve the legal framework concerning public servants, so as to secure the real autonomy of the administration, as well as the prompt and efficient activity of public authorities and institutions;
? To create an efficient and flexible institutional framework, which will ensure the implementation of the legal provisions concerning the activity of public servants;
? To develop a system for a permanent professional training of public servants, consonant with the needs of the institutions.

In order to apply the sustainable development strategy, it is necessary for public administration institutions to have the ability to formulate concrete policies and extend the list of directives in carrying out the government programmes.

The institutional reform aims at defining and clarifying the responsibilities of the specialised bodies of the public administration and at the increasing the pace in adopting the EU's acquis, in concurrence with the efficient use and conservation of resources.

Therefore, public administration reform imposes the observance of the following principles:

? **Separation of political from administrative functions;**
? Local **decisional autonomy** in the administrative act;
? **Transparence** of the governing or the administrative act, by securing free access to information public administration institutions as well as to civilian institutions and citizens;
? Introduction of **simple and flexible** administrative procedures and legal regulations;
? **Respect** towards the public as a whole and the environment.

In order to ensure the global coherence of the policies and strategies in the public administration reform, the following objectives must be pursued:

? Clarification of the role and definition of the extent to which the intervention of public administration in economy is justifiable;
? Definition of the duties, responsibilities and functional relations between institutions;
? Simplification of administrative procedures and increasing transparence in the administrative act;
? Improvement of public services efficiency;
? Delegation of responsibilities within the public administration;
? Securing of legal coherence in the field;
? Creation and administration of the information technology system in the public administration, based on a national information technology programme.

CHAPTER 11

Territorial planning

Territorial planning activities (studies and projects) that ensure the continuous territorial development reduce into practice the strategies and programmes for sustainable development in various areas such as economy, society and ecology.

While ensuring the balanced development of territory and localities, determining the optimum use of resources, remodelling and technically equipping areas for adequate economic use, identifying social characteristics and regional particularities, all within the complex development of the economy in the context of the present and future requirements of society, territorial planning creates an improved framework for life and work.

The diversity and multitude of problems taken into consideration in order to realise the goals set by society in distributing and organising the increasing number of territorial elements lends the concept of territorial planning a comprehensive character and the current socio-economic circumstances (the transition to market economy) require the consistency of theory with practice.

According to the concept advanced by us, the territorial planning system help comes to support the approach of the problems from a general to a particular level in various territorial units, starting from territorial planning (national, departmental, regional, communal and also rural and urban) through the organisation of territories within units (agricultural, forestry etc.), to the location of different investments (through pre- and feasibility studies and technical projects). This will ensure that the territory is used in a rational way.

Therefore, it is required that the National Plan for Territorial Planning, elaborated in Sections (at present under study and debate in the Parliament) I – Communications infrastructure; II – Water; III - Protected areas; IV - Settlement network, all of them having regulatory functions with a guiding role in the sustainable territorial development, would need to be developed further with the inclusion of new sections such as: risk zones, areas for tourism, public services (education, cultural, etc.), energy planning, etc.

Based on this, the Plans for Territorial Planning of the Departments must apply the national and local policies by materialising the objectives, the means and phasing of the activities for a balanced development of the territory and localities, while taking into consideration natural and human resources, economic potential (agricultural, industrial, services, etc.), the possibilities for the development of communications, water supply, management of waters, sewage, energy supply, telecommunications) as well as environmental protection and conservation. Finally, the Plans for Territorial Planning of the Departments will have to create opportunities for the location of different economic, socio-cultural and other facilities. Given the importance and role of these plans as instruments of public administration, they should be put into practice by the year 2010 for all departments, subsequently being completed and updated with regard to the new developments.

The plans for land use within cities, towns, communes, define the type of economic activities that will take place in those areas in conformity with national, departmental and local territorial planning. It is important to establish the socio-economic profile of each area according to the possibility to develop economic units in correlation with the availability of the workforce, the location of buildings, the capacity of equipment, while respecting the natural heritage, the special features of each urban area, and the rational use of land by structurally organising the areas that could be used for construction. The following plans should also be elaborated by the year 2010 in order to complete the Urban Planning: the general urban plan, and the related regulations that define the way in which the territory should be used from the point of view of the building system and of the urban functions as a basis for the development of localities; the urban plan and the related regulations which define the general urban elements for certain areas of the locality, with a view to release approvals and urban certificates. All this requires continuous elaboration and updating, and this process should correspond to the needs of the detailed urban plan that establishes the location and conditions of execution on a certain land (lot or group of lots) of one or more constructions, according to circumstances determined by environment, neighbouring, and functional requirements in order to materialise investments.

To achieve a harmonious and sustainable development of the territory a continuous improvement and reactivation of activities in this domain is necessary, starting with the activities carried out at the level of departments (counties).

The following organisational administrative measures are needed:

1. Placing emphasis on the interdisciplinary character of the specialised units of territorial and urban planning working with the County (Department) Councils by rising them in rating to the level of

General Directions and staffing them according to the complexity of the territorial division. This should consist of specialists from the main domains that concur in the realisation of the land-use planning projects and regional development.

2. In order to implement the new structures set up in accordance with the diversification of the forms of property, created by the land survey, the Regional Offices for agricultural land surveying and organisation of farmland, and the Regional Offices for Soil Science and Agrochemical Study need to be unified. This type of organisation will benefit from a unitary program financed by the government.
3. In order to ensure the available data needed in the elaboration of the required documentation with regard to the actual land situation and the updated plans the revision of the presently inefficient and expensive system established through the land-surveying law (while elimination the parallel activity carried out by the Ministry of Agriculture) becomes necessary.

This short presentation of the complexity of the territorial planning activities demonstrates that a balanced and sustainable development can be realised only through the implementation of development strategies and programmes. Land-use planning programmes should be an instrument of the central and local public administration bodies for the creation of a harmonious natural environment.

Territorial planning activities are mainly supported by the land surveys that identify, describe, measure, classify, and evaluate land, which is individualised and its specific data are entered into a numeric and graphic database.

By Law no. 7/1996 on the real estate and land survey, the foundation for land survey in Romania was set and the National Office for Land Survey, Geodesy and Cartography (ONCGC) was set up.

The ONCGC is a public institution subordinated to the government, financed from the budget and other sources. Its purpose is to supervise and co-ordinate territorial land-surveying activities at national level.

Under the guidance of ONCG the following institutions have started to function:

- ? the Departmental (County) Offices for Land Survey, Geodesy and Cartography (OJCGC);
- ? the institute for Geodesy, Photogrammetry, and Cartography

and also subordinated to the Ministry of Justice:

- ? the Land book office, with a branch with every court of law.

All these institutions must ensure the development of survey activities along three lines: technical, economic, and legal.

Since 1998, the administrative-territorial delimitation has begun with the landmarking of communal limits for about 400 communities throughout the country. When all communes in the country are landmarked, the General Land Survey base of the country will be in place.

In parallel with the implementation of the General Land Survey Commission and the Specialised Land Offices that adopted their methodology and regulations, and started adapting the topographic maps to carry out land-survey plans.

Attempts are made to create uniformity by introducing the Land Survey Office in Romania. This uniformity refers to methodology in all its aspects: technical, economic, and legal.

The documentation of the general land survey, which is used for the production of maps, plans and registers for the entire country's land resources, including communal administrative territories, cities, and other settlements, according to owners of land and real estate, and according to the type of land - farmland or non-agricultural land - must be the basis for the creation of all special surveys.

Each special survey must have its own place within the general survey plan within which it will develop its own specific economic and legal problems.

The three directions: technical, economic, and legal, of the land survey must eventually be co-ordinated by a single institution, which could be the ONCG in a restructured and re-dimensioned form.

CHAPTER 12

External Policy and National Security

12.1 Landmarks of the international context

The prospective horizon of the National Strategy for Sustainable Development (15-20 years) covers a period of fast and deep-going changes in the global political and economical context.

The bipolar system, characteristic of the five decades of Cold War, has been replaced by a uni-multipolar one, where the US seem to be the only superpower capable of imposing its interests at a global scale, together with a limited and variable number of regional powers. The replacement of the political-judicial and economic-financial systems created in the aftermath of World War II is underway, with a new arrangement of real power factors and with a new set of values being created to reflect the new realities.

The effects resulting from the widespread implementation of information technologies have already revolutionised some significant segments of human activity, thus influencing the asymmetrical propagation of the globalisation processes. The real time movement of the information and money leaves far behind the circulation of cultural or material goods. The way in which these phenomena emerge in the industrial societies and the resonance effects they produce in the rest of the world create new disparities and imbalances, with occasional destabilising effects.

In the new context, the periodicity and the depth of economic cycles cannot be reasonably predicted according to classical econometric models, because they represent the cumulative effect of several decades of structural changes, especially in advanced and industrialised countries. The motivation resides in the widespread implementation of technologies that incorporate an ever increasing quantity of intelligence and an ever decreasing quantity of raw materials and energy into every product, in the revolutionary impact of new practices and managerial procedures at corporate level, with extensions into the public administration, in the high complexity and diversification of services, especially the financial ones, in the firm commitment to the principles of durable development as a basis for decision-making processes with regard to political-economic strategies.

Concurrent with a growing awareness concerning the impact of the global problems and synchronous with regional integration and inter-regional co-operation, which presupposes the voluntary suspension of some of the sovereignty attributes of the national state, tendencies towards fragmentation, separation or isolation appear. The growing activism in the field of human rights and the concern with respect to domestic ethnic, religious, or tribal conflicts, have acquired a trans-border vocation and have become a vector of power projection, which has not yet found an adequate formulation in international law.

The fading acuteness of some of the classic threats to the security of states or groups of states, brought to the fore the need to confront other unconventional, yet no less dangerous challenges to the international stability and security. For example, the uncontrolled arms proliferation, trafficking of drugs, arms, and other prohibited substances, organised crime and corruption, illegal immigration, terrorism as a means of achieving political aims.

One can observe a constant tendency towards the multiplication of the actors who operate on the international political arena, the diversification in the methods employed to identify converging positions and to materialise them in agreements, accords, treaties, charts, etc, a fact that stimulates the growing complexity of the decision-making processes. New actors appear next to the well-known, dedicated ones, with an increased impact on the evolution of international life: large multinationals, civil organisations (with the tendency to coalesce at an international level), the centres of reflection and academic research, influence and pressure groups, and the media.

At European regional level, the integration processes advanced considerably after the creation of the single E.U. market and the expansion of the monetary union, with the perspective of creating a particular identity in matters of foreign policy, security, and defence. It is no coincidence that in Europe a multitude of regional and sub-regional institutions work by combining governmental and non-governmental factors according to the interlocking institutions principle, especially since they also function according to the subsidiarity principle. Therefore, they favour the decentralisation of decisions down to the level where the efficiency is at its highest.

Although identifying the overall trends that might prove stable on long term seems a little presumptuous the aforementioned elements help sketch the global context in which Romanian society will have to evolve for the next twenty years.

12.2 Opportunities and restrictions in the Romanian foreign and security policies

The beginning of a new millennium sees Romania in a position of relative weakness with regard to the national security requirements in an international context with a dynamic evolution. Internal political stability and a coherent evolution at a satisfactory pace of the economic and social mechanisms, combined with a maximisation of the international co-operation potential are necessary prerequisites in achieving a sustainable development.

Despite the continuous efforts and the noteworthy progress made during the last few years, Romania has not yet been granted membership status in the integrated political-military structures (NATO) and has had a performance deficit in the accession process to the political-economic structures to which it aspires. The relative advantages of the candidacy do not sufficiently counterbalance the disadvantages resulting from the widening gap between the socio-economic development of Romania and the other Central European countries, and from the stagnation in a grey zone regarding security requirements. The unfavourable context in South-eastern Europe influenced the international situation of Romania.

The strategic option adopted by Romania of being integrated into the NATO and the E.U. structures was promoted by successive governments with massive support from Parliament, civil society and public opinion represents the only possible alternative. This is in full agreement with the perennial national interests and in accord with the predictable tendency towards regional stability at regional European and world level. But this presupposes the organic commitment to the values, institutions, and procedures characteristic to the Euro-Atlantic civilisation, which include, as an essential component, sustainable development, in harmonising the socio-economic programmes with the conservation of the environment and of the cultural heritage, with the stimulation of solidarity between the generations.

From a practical point of view, two stages can be identified for the reference period, whose extent in time depends on:

a) The efficiency of the effort in terms conformity to the standards and requirements of the two organisms (NATO and E.U.);
b) The capacity and political will of the two organisations to accept and absorb new members.

From now to the year 2020, Romanian foreign and security policy will be influenced by its international status of a country aspiring to be integrated into NATO and EU, ready to assume responsibilities and to enjoy rights.

It is therefore natural that the pre-integration period requires a multi-vector activity in foreign relations, on a bi- and multi-lateral level, in order to increase Romania's competitive advantages by closely interlinking political action with the aims of socio-economic development and the strengthening of the defence capacity. The efficiency of the foreign policy and diplomatic demarche will be pragmatically measured by the capacity of promoting Romania’s specific economic interests, of attracting significant investment, of gaining access to new sources of assistance and funding. The moment and the qualitative content of the integration will depend on the "dowry" with which Romania will appear at final negotiations.

No less decisive is Romania's capacity to play a significant part at a sub-regional level, as a stability and consensus factor, as a promoter of the values that it shares with the West. The adoption of the sustainable development principles and their expansion to the whole area could be a significant contribution to the process.

During the second stage, in the context of a firm inclusion into the political, economic, and military integrated structures of the European and Atlantic zone Romania’s foreign and security policies will be reconsidered accordingly, with a view to increasing the country’s own conceptual and practical contribution to European consensus.

12.3 Medium-term objectives of the foreign, security, and defence policy

Romania's national interest, as defined in the National Security Strategy are:

? To guarantee and promote the fundamental rights and liberties and the security of the Romanian citizens;
? To strengthen the democratic political regime, based on respect for the Constitution and on the rule of law;
? To secure the existence of the sovereign, independent, unitary, and indivisible Romanian state;
? To support the links with Romanians living abroad for the conservation of their identity;
? Romanian participation in ensuring security and stability in Europe.

The foreign and defence policies are integral parts of the national security strategy of Romania. Under the operational aspect, it is predictable that the security policy will focus upon:

a) Optimisation of the decision-making system in the field of foreign policy; creation of an increased coherence among all decision-makers who have specific responsibilities in the field, according to the Constitution and the provisions of the law;

b) Flexible reallocation of necessary material and human resources, according to the priority objectives established by the national security policy;
c) Elaboration and application of complex programmes and diplomatic, economic and military activities in a logical sequence for the promotion in an articulate expression of the specific national objectives, in relation with other states, groups of states, or international organisations and in harmony with the clearly-defined interests of Romanian's partners;
d) The increase, according to the subsidiarity principle, of the foreign component in the activities performed by central institutions and local authorities, by assuming direct responsibility in the management of some projects and programmes of international collaboration;
e) Attracting the general public, social partners, and the academic community in the elaboration of security policy options, at least in the initial phases.

12.3.1 Foreign and security policy

As the span of time before Romania is effectively integrated in the political, economic, and security structures of the Euro-Atlantic space cannot be anticipated, the pre-integration period will be difficult and marked by much uncertainty. To overcome this period increased political will and effort, creativity and cohesion will be necessary in the following main respects:

a) The sustained continuation of efforts regarding the integral fulfilment of the criteria and the organic assimilation of legal, institutional, and effective performance standards required by E.U. and NATO membership status, through:
? The co-ordinated use of political dialogue, diplomatic activity, and military contacts, at bi- and multi-lateral level, in order to promote Romania's candidacy to join the European and Atlantic integrated structures.
? To fully meet the commitments and recommendations contained in the pre-EU-integration strategy and in the personalised NATO integration and the to utilise judiciously the various types of assistance granted to this purpose;
? To observe the obligations undertaken and the commitment to new responsibilities, according to Romania's potential and resources within the framework of the peace-keeping and assistance operations under the aegis of the Partnership for Peace. Also, to strengthen the collaboration with the EU in its position as European pillar of NATO and embryo of the future European identity for security and defence;
? Effective participation, with Romania's own measures and initiatives, in combating unconventional threats to peace and international security;
? To form, according to a comprehensive program, a professional group of civilian and military experts, including qualified negotiators, in order to achieve integration into the Euro-Atlantic structures and the effective participation in their activities; a more active use of the analysis and intervention capacities of the Romanian diplomacy;
? Maintaining and increasing the support of the population for the objectives of the Euro-Atlantic integration.

b) Development of relations with other states in a global world by:
? Giving concrete content to bi-lateral relations with states that share the same values and aspirations, by using the various rewards of the strategic partnership with the US and of the privileged collaboration with the Central and Western European countries, as well as neighbouring states;
? A more accurate connection between politics and specific economic and financial interests in relation with states from other continents, especially regarding the promotion of exports and attraction of direct investment.

c) Expansion of co-operation in a multilateral framework by:
? Realisation of the collaboration potential offered by trilateral and sub-regional arrangements, as well as the Euro Region formula, in line with long-term Romanian interests; strengthening by deeds the statements according to which Romania is a factor of stability and collaboration in South-eastern Europe and the Black Sea zone.
? Demonstration by concrete action the important part played by Romania at the crossroads between East and West and North and South, as well as between Europe and the areas with attractive economic perspectives in the Caucasus, Caspian Sea and the Middle East;
? Increase of the original Romanian contributions to the OSCE, UN, and other institutions' activities.

12.3.2 Defence policy and reform of the military component

In the field of national defence the main objective is to realise the necessary military capacity to safeguard the national sovereignty and independence, the integrity and territorial unity, constitutional democracy and the principles of the rule of law state.

To this purpose, it is necessary to speed up the reform process, restructuring and modernisation of the armed forces so to increase the extent of its inter-operability with the Euro-Atlantic structures in order to prevent, deter and halt any possible aggression against Romania, the gradual integration into the North-Atlantic structures, to increase Romania's contribution to the regional stability, reducing the degree of uncertainty and projection of the stability and forces.

In order to demonstrate the ability to contribute its military component to the collective defence, Romania must develop its military capacities that they may become inter-operative with those of NATO. In this respect, the main directions of action on medium and long term are:

a) modernisation, redimensioning and restructuring of the armed forces, in keeping with the requirements of the new security environment and with the available resources to enhance the training of personnel, development of the operational and management abilities of the commandments and fighting structures and units;
b) creation and maintenance, preponderantly through national effort, of a credible defence capacity, modern and efficient, based on the action of the warning forces, reaction forces, main and reserve forces;
c) creation within the armed forces of modern operational structures able to allow Romania to actively participate in the efforts of the North-Atlantic Alliance and international bodies in preventing the outbreak of conflicts, crisis management and collective defence, to take part in multi-national military peace-keeping operations, to help building trust and stability in Central South-eastern Europe and in humanitarian and other military actions;
d) training and education of the military cadres in universities and colleges both at home and abroad so that, through their professional, cultural, social and behavioural qualities, the military may become an elite corps of the Romanian society; the integration of simulation technologies in the education and training programmes of the Romanian army;
e) emphasis on the programmes of inter-operability with the military structures of the North Atlantic Treaty Organisation, a special attention being given to commanding abilities (C4I), personnel and troops training, to management and air defence, logistics and infrastructure;
f) maintaining a reasonable capacity to respond to emergencies and situations of natural disaster;
g) consistent, dynamic and efficient development of the acquisition and modernisation by proper use of resources, promotion of modern technologies and keeping a sound balance between the supply of military materiel from the domestic and foreign market;
h) definition of concept and doctrine system (Armed Forces Doctrine, Doctrine of the Armed Forces' Inter-Categories, the doctrines on the categories of forces and arms) with a view to increasing the conceptual, operational and technical inter-operability with the armed forces of the member states of NATO;
i) fundamental improvement of the personnel training, increased ability to command and operate for commandments and fighter structures according to NATO standards;
j) development of the capacity of the armed forces based on the existing initiatives and starting from the results obtained lately;
k) identification of new ways to strengthen the military co-operation with other partner states, both within the PfP and at bi- and multilateral level;
l) restructuring and organising the defence industry on criteria of efficiency, but also of necessity, by introducing modern technology, maintaining the national capacity for creation by setting up and developing advanced technologies centres, participation in integrated allied programmes of research and development, initiation of complementary programmes to occupy the highly-trained workforce from the defence industry. Funding and financing will be provided through budget allocation, subsidies granted for a limited period of time, banking operations patrimony guarantees for efficient sectors of the economy, for EU-compatible technologies, in order to externalise assets whose existence within the defence sector is not justifiable;
m) modernisation by supplying the army with highly efficient command systems, improvement of the technical level by increasing the firepower, mobility and dependability, introduction and use of state-of-the-art equipment and weaponry.

CHAPTER 13

Development of Infrastructure

The development of an efficient and specialised infrastructure that will support the sustainable development process must be planned and implemented in Romania in such a way that it will be compatible with the European and global infrastructure.

In order to achieve this, the government must, on the one hand, settle and define by law the main market mechanisms as part of the institutional infrastructure, and on the other, facilitate investments in the field of physical infrastructure.

Overall, the government must ensure a continuous development of institutional infrastructure that seeks to:

? Develop financial services;
? Ensure creation of links between capital market segments as well as between these and the economy, in order to guarantee a permanent flow of capital;
? Structural adjustment of the economy: primary, secondary and tertiary sectors, simultaneously with the securing of a connection between these and capital markets;
? Improvement of management and corporate systems;
? Make public administration more efficient and transparent in order to avoid parallelism and overlapping at the decision-making level and in the management of certain projects.

In the field of physical infrastructure, the government must take all steps required for the restoration of the existing capital infrastructure which is characterised by a high usage level, dysfunction, severe limits in terms of planning, implementation, and management. Steps to be taken are the following:

? Urban systems: streets, sewage networks, water supply networks, gas and electric power supply systems, systems for the collection and storage of solid waste, public transport system, road traffic, plants for cleaning and purifying used water, etc.;
? Regulating water courses, water reservoirs, irrigation systems;
? Modernising the national roads network and building highways; granting of concessions for road and highway construction, as well as granting of concessions in works and management of constructing the infrastructure;
? Guaranteeing an incentive fiscal system for those institutions that credit the real estate market;
? Encouraging the creation of special economic areas as a part of the infrastructure and, as part of this, of international business centres, in order to combine multi-modal transport with industrial and technological parks;
? Granting concessions for all the services in the field of communications and information technology.

Special attention should be given to the development of an adequate infrastructure that will preserve and allow the use of the national and cultural heritage, which must be protected against influences of doubtful quality. Also, special attention should be given to the implementation of a National Strategy in the field of communications and information technology; the government should be required to reserve at least 2% of the GDP for these two main sectors.

CHAPTER 14

Monitoring and Evaluation

14.1 Objectives

The objectives of the monitoring and evaluation component of the National Strategy for Sustainable Development is to assist the decision-making process by ensuring the credibility of the proposed objectives and to supply the necessary corrections along the way. At the same time, the mobilisation of local and central governmental institutions is ensured by feedback mechanisms, so that the general public can make its contribution to the application of the strategy.

Fundamental characteristics of the monitoring and evaluation component are:

? Interpretation, evaluation and integration of data at a high level in order to generate aggregate data.
? Overview of the spatial and temporal trends.
? Monitoring of the connections between the social-economic areas and the field of environmental protection in the context of sustainable development.

In order to achieve these 3 fundamental objectives, the **main questions that have to be asked** in connection with the monitoring and evaluation of the national strategy for sustainable development are the following:

What is happening?	***What are the conditions and trends of environmental changes?***
Why is it happening?	***What causes these changes?***
Are the changes significant?	***What are the implications for health, economy and environment?***
How could we react?	***What are the implications of society's reaction on the environment?***

In addition to these basic problems, there are a number of objectives that must be anticipated by the monitoring and evaluation component. Therefore, this component must draw attention to the urgently needed steps to be taken for environmental protection, as well as identify the flaws existing in the domain of information and knowledge that have an impact on how the environmental conditions are interpreted. These objectives must contribute to the evaluation of society's answer to the environmental issue and encourage the integration of environmental considerations into economic and social development policies. Finally, the monitoring and evaluation component must contribute to the increase of institutional capability to honour international agreements.

The component for monitoring and evaluation is a need that results from Chapter 40 of the **"Agenda 21"** which requires the countries that participated at the United Nations Conference for Environment and Development to improve their monitoring, evaluation, and reporting system of the progress made, as a pre-requisite of sustainable development. The government, as a signatory of international conventions or member of regional organisations, faces a new challenge that is specific to sustainable development. In addition, the domestic demand for evaluation and reporting is increasing, and as a result of new legislative provisions and policy directives imposed by EU candidacy, it is now the government's duty to provide this information.

14.2 Monitoring, evaluation and reporting principles

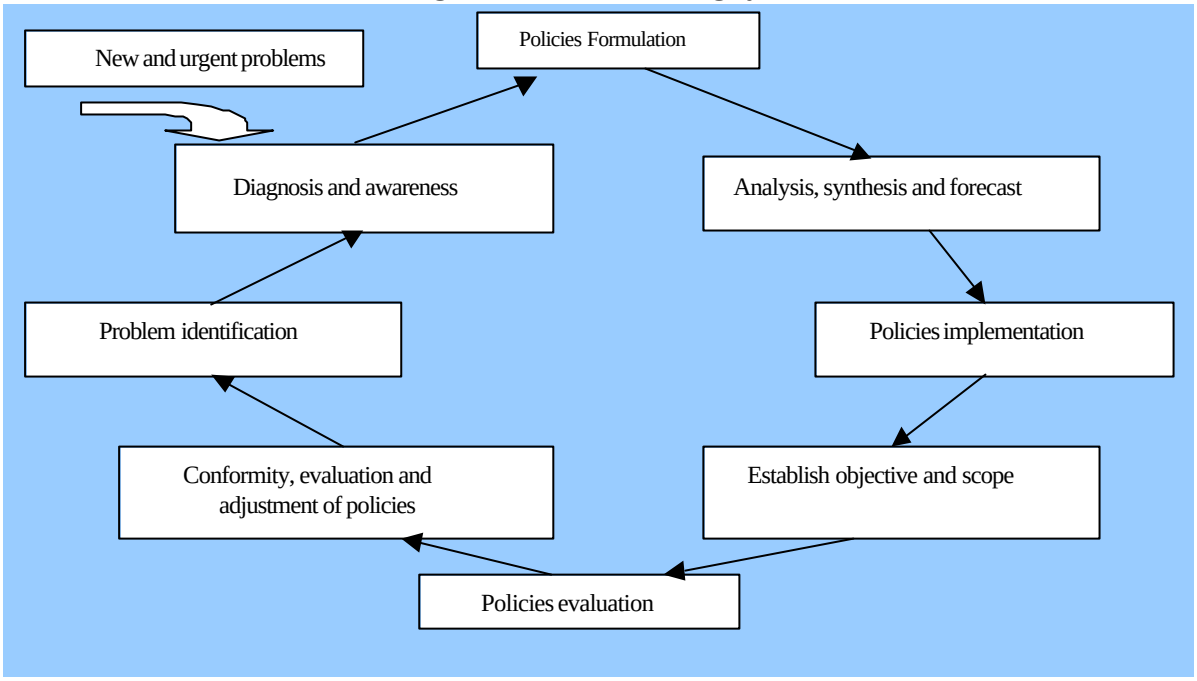
If a strategic monitoring, evaluation, and reporting component is established for sustainable development, a set of guiding principles is needed.

? The most important step is to establish the role of the decision-makers, which includes governmental decision-makers, corporate executives, educators, and public decision-makers. This involves ensuring an intensive contact between participants in the process.
? Diversity within ecosystems must be taken into consideration, starting from the fact that natural systems are finite and have a limited capacity for sustainability.
? The profit that can be derived from monitoring, evaluation, and reporting is represented by the integration and objective interpretation of data and information regarding the environment. The role of the monitoring, evaluation, and reporting component is a co-ordinating one. This component will transmit integrated and aggregate information to the existing organisations and will supply a coherent

structure for a thorough, comprehensive report, credible and continuous in the sense of sustainability. This can be achieved only on the basis of a genuine partnership between institutions (governmental and non-governmental) that function at different administrative and private sector levels.

? It is important to base this component on a conceptual framework that will facilitate the development of an informational system able to respond to the **main problems** presented, and to connect the environmental and socio-economic factors. Figure 14.1 presents an alternative decision-making cycle.

Fig. 14.1 Decision making cycle



? The extension in time and space of the monitoring, evaluation, and reporting component is of particular importance. Environmental priorities tend to be different at different stages in time. Climatic changes and the reduction of the ozone layer are global problems that can only be approached in a joint effort. A general priority is hard to formulate since it only serves as an example. In addition, the responsibility of national administrations and the government for the promotion and implementation of regional and global initiatives for the improvement of the state of the environment must be highlighted.

? Regarding the territorial component, the supply of data and information to the administrative and institutional framework is desirable. This could be achieved by using, for instance, geographical information systems (GIS). Ecological regions, compared on a uniform scale, must be ranked in a system that will make it possible to add and collect data. They must also be defined in the perspective of the entire ecological system, which includes climatic, geographical and geological, soil, wildlife, and water conditions, as well as the results of human activity. From the perspective of the time that it addresses, this dimension should lead to the analysis and interpretation of past, present and future trends, making and providing an environmental diagnosis and forecast. Until recently, the practice was based only on retrospective analysis. However, forecasts regarding the state of the environment are important decision-making factors in the process of sustainable development.

? The monitoring, evaluation, and reporting component must be based on ensuring a balance and completeness of data and indicators that will adequately reflect environmental conditions and trends as well a socio-economic development in a sustainable context.

? The niche of the monitoring, evaluation, and reporting component is reserved to scientists and experts as well as to decision-makers. A scientific base is needed in order to insure credibility, but the interpretation and analysis made by this sector only becomes efficient when scientific knowledge is transformed into useful information for the decision-making process.

? In order to be efficient, the monitoring, evaluation, and reporting component must be transformed into a product designed to satisfy the needs of a large spectrum of users. A simple periodic reporting at the national level is not enough to ensure the existence of a viable reporting system that will lead to an increase in the awareness of the public, who will pressure the political class to make decisions. Such products are maps, audio-visual and electronic products, as well as traditional publications. The dissemination of this information must be continuous and on a broad basis.

At the national level, the barriers are:

? The lack of resources needed to develop the monitoring, evaluation, and control component;
? The lack of organisation in data acquisition, storage, and processing that would allow the aggregation and integration of these data in reports specific to sustainable development; this component includes a variety of sectors and requires a high degree of expertise;
? The need to establish co-operation and partnership in order to ensure open and dedicated process.

In order to ensure the success of the sustainable development in Romania, the clear defining of a system of indicators and the implementation of an adequate information system that will allow the monitoring and evaluation of human development in Romania is needed. This evaluation will be accepted and useful as a basis for decision-makers involved in the process of sustainable development. This includes decision-makers from the public, private, and non-governmental organisations sectors.

The role of the National Agency for Communications and Information (A.N.C.I.) is to co-ordinate the efforts for the sustainable development of Romania's economy towards the support of the sectors that try to direct information to society. As a specialised body of public administration subordinated to the government, A.N.C.I. has the following responsibilities as directed by H.G. 973/1998:

1) The elaboration, implementation, monitoring, and evaluation of policies in the computer science and communications field;
2) Taking on the role of regulatory authority in the field.

At the same time, the central and local public administration, by the provisions of H.G. 490/1991, has the obligation to ensure that public institutions receive information based on guiding projects, so that the information systems and the products that are acquired for public institutions satisfy the national and international technical standards and recommendations for the integration in a national unitary system. Due to the policy of promoting technological parks, technological transfer stations, and excellence centres, the projects and technology used in public administration could be proposed and approved by the private sector, too, who could contribute to finding the best solutions.

In this context, the monitoring, evaluation, and reporting component in the framework of the implementation of sustainable development ensures:

? Public awareness.
? Education and motivation of the public.
? Development of politics.
? Evaluation of achievements.
? Improvement of the scientific basis of data integration and information and their aggregation.

In this perspective, it is obvious that this monitoring, evaluation and reporting component will extend its scope and concentrate on forecasting environmental conditions and social economic development, instead of merely focusing on past problems.

NATIONAL SUSTAINABLE DEVELOPMENT STRATEGY

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