

## **2. STRATEGY AND NATIONAL ENVIRONMENTAL ACTION PLAN**

### ***2.1 Legal Framework***

The provisions of Article 18 of the Environmental Act (“Official Gazette”, No. 82/94 and No. 128/99) prescribe adoption of the Environmental Strategy of the Republic of Croatia (hereinafter: Strategy).

The Strategy comprises basic guidelines and directions for co-ordinating economic, technical, scientific, educational, organisational and other measures, as well as measures for the implementation of international obligations aimed at environmental protection. The Strategy includes the state of environmental pollution by sectors and an integral assessment of the state of environment. It also contains the basis for a balanced economic development and efficient environmental protection measures, as well as the basic provisions for the most favourable technical, production and economic measures in environmental management. The Strategy comprises short-term and long-term measures aimed at preventing and containing environmental pollution and their order of implementation with set deadlines. The basis for environmental protection monitoring, as well as a review of sectors in need of recovery, which also defines conditions for the implementation of those measures, are also included in the Strategy. Financial sources and an estimate of the funds needed for the implementation of the environmental protection measures, a basis for directing and improving environmental education and training, as well as scientific research in the environmental protection field, have also been incorporated in the Strategy.

The Croatian Parliament will pass the Environmental Strategy, upon the proposal of the Government of the Republic of Croatia, which will be then published, in the “Official Gazette.”

Pursuant to Article 19 of the Environmental Act (hereinafter: EA), the Environmental Action Plans are to be developed for the territories of the counties and for the City of Zagreb by county assemblies or Zagreb City Assembly. These action plans contain fundamental objectives, conditions and comprehensive environmental protection measures. Additionally, they include priority environmental protection measures categorised according to specific components and specific spatial units, and elaborate in detail the environmental protection principles and directives comprised in the Strategy.

Moreover, the EA envisages that the environmental action plans be adopted for certain narrow city or municipality territories where the objective is to preserve cultural, historical and natural heritage of their landscapes. All action plans on the lower level must be in conformity with the programmes on the higher protection level, i.e. with the Strategy.

Although the EA was adopted as early as 1994, the Strategy was drafted only recently when satisfactory social and expert conditions stipulated by the Law were met. The Environmental Strategy, comprising all integral parts as stipulated by the Law, was prepared with an objective to address the systematic and comprehensive environmental protection in the Republic of Croatia.

## ***2.2. International programmes and guidelines***

Among its international activities and as a member of the Environment for Europe process (UN/ECE), the Republic of Croatia has the obligation to draft the national environmental action plan. Within the Environment for Europe process and during the Ministerial Conference held in Luzern in 1993, a proposal was adopted for Central and Eastern European (CEE) countries to develop their national environmental action plans, which should contain "an environmental problems list with priorities." It was envisaged that the priorities be determined with regard to the following criteria: impact of the polluted environment on public health, the environment itself, i.e. ecosystems, and economic development.

Croatia belongs among the last four over a total of 27 countries in transition that have no National Environmental Action Plan. In 1999, Croatia started drafting the Environmental Strategy with the financial and professional support of the World Bank. The objective of the Strategy was also to serve as the National Environment Action Plan (NEAP) on the international scene.

An approach underscoring the identification of priorities was certainly adequate for most transition countries some ten years ago. However, although Croatia belongs to this community of countries, and in accordance with the methodology of the Environment for Europe process, Croatia should primarily focus on solving the priority environmental problems. Nevertheless, the drafting of the action plan within the Strategy was considered very useful. In its drafting, the action plan is supposed to observe the methodology of the World Bank's national environmental action plan.

The initiation of the EU association process for Croatia and the fact that it is not facing the environmental problems that could be considered national problems according to the said criteria, particularly as concerns the impact on the health of the wider population<sup>1</sup>, were the key reasons for merging the Strategy and National Environmental Action Plan into a single document. Setting only a narrow priority list of environmental problems would probably not have the necessary effect required at this moment. The Croatian Strategy does not need to regulate the environmental activities that other countries in transition began regulating a decade ago, but needs to reduce differences and co-ordinate its activities in this field with the most successful transition countries (for instance, Czech Republic, Estonia, Hungary, Poland and Slovenia).

Although the EA does not explicitly state this, the Strategy should fully observe the principles of sustainable development. The Strategy should offer guidelines and directions for long-term

<sup>1</sup> There is no environmental pollution in Croatia that could imperil human health on the national level, such as Chernobyl or the "Black Triangle" problems.

environmental management, while fully observing the economic, social and cultural development and including the basic conditions for the harmonisation of economic, technical, scientific, educational, organisational and other measures, as well as the measures for fulfilling the international commitments made in the environmental protection field.

Pursuant to Article 19 of the EA, environmental action plans are to be developed for territories of the counties and for the City of Zagreb. If necessary, the environmental principles and guidelines from the Environmental Strategy are to be elaborated for city and municipality territories, which would enable the implementation of the Strategy on all administrative levels.

Already here, the EA anticipates/stipulates the development of regional and local environmental action plans that are one of the major mechanisms for the realisation of the principle of sustainable development<sup>2</sup>.

Since the EA has been enacted, a number of key documents has been prepared, such as the 1998 Report on the State of Environment for the Republic of Croatia, the 1999 Biological and Landscape Diversity Strategy and Action Plan for the Republic of Croatia, the 1999 UN Report on Implementation of Environmental Policy in the Republic of Croatia, and the 1997 Strategy of Spatial Planning and the Implementation Programme of the Republic of Croatia.

### **2.3. Environmental Status**

In its major segments<sup>3</sup>, the environmental status could be presented as follows:

#### *Air*

Air emissions have been reduced during the last ten years and air quality has improved. The main reason is the general recession (caused by war) and initiation of economic reforms. In comparison with other European countries, Croatia's per capita emissions are low and, as regards trans-boundary movement, the country is mainly an "importer" of SO<sub>x</sub> and NO<sub>x</sub>.

The 1998 emissions of principal pollutants into the atmosphere were considerably lower than in 1990: SO<sub>2</sub> by 50%, NO<sub>x</sub> by 13%, NMVOC by 25%, CO by 47%, CH<sub>4</sub> by 27%, NH<sub>3</sub> by 37% and CO<sub>2</sub> by 16%, 92% of SO<sub>2</sub> emissions are a product of combustion. The NO<sub>x</sub> emissions are mostly caused by transport (63%). The majority of NMVOC emissions come from natural sources. The main source of ammonium emissions is agriculture (>70%). NH<sub>3</sub> emissions are continuously on a slight decrease, mainly because of reduction in the number of livestock. CO<sub>2</sub> emissions in 1998 were 20.4 Mt, showing the trend toward an increase. Methane emission from natural sources is constant (approx. 50% of total emission), and that from agriculture is on a decrease. N<sub>2</sub>O emission also predominantly derives from agriculture (60%).

<sup>2</sup> Development of the Local Environmental Action Plan (LEAP) is a common practice in developed countries and it is exceedingly recommended in the countries in transition.

<sup>3</sup> A review of several segments is given here, while the following chapters describe the situation in sectors/areas in detail.

Croatia is party to the UN Framework Convention on Climate Change and belongs to the group of countries that have committed themselves to keep the level of greenhouse gas emissions down to the 1990 level. Croatia also signed the Kyoto Protocol and after its entry into force Croatia will have to reduce greenhouse gas emissions to 1990's 95% in the period from 2008 to 2012. Among heavy metal emissions (Pb, Cd, Hg), the highest emissions are those of lead, mainly from transport (98%). Leaded petrol will be banned by the year 2005. Sulphur and nitrate precipitation was registered in the area of Gorski kotar and parts of North-west Croatia.

The substances depleting the ozone layer are completely imported. Total per capita consumption of these substances is about 0.09 kg, which is significantly lower, than of developed countries. Being party to the Montreal Protocol, Croatia is committed to gradually abandon the use of CFCs and halons by the year 2010.

The existing air-quality monitoring network in Croatia encompasses about 38% of the total population, or 90% of population in cities and towns. The air pollution in 15% of towns is excessive (category III), in 60% medium (category II), and in 25% of towns the air is clean or slightly polluted (category I). Excessive or medium pollution has been recorded in the cities of Zagreb, Sisak, Rijeka, Split, Šibenik, Pula and Kutina. So far, only four monitoring stations have been equipped with automatic monitoring devices.

#### *Inland Waters*

Croatia is comparatively rich in water resources and has relatively wide rivers and a karst area that is particularly important for the water regime. The per capita volume of waters is assessed as approximately 7,000m<sup>3</sup>, whereas, taking into consideration border and cross-border waters, not including the Danube and the Neretva rivers, it amounts to some 17,000m<sup>3</sup>. Potable water reserves are relatively large, and 85% of water for water supply systems is tapped from groundwater reserves. 73% of the population are connected to the public water supply system.

60% of the population, mainly in the cities, are connected to the sewerage system. The typical sewerage system is a combined drainage system. In rural settlements, wastewater drainage is generally based on the use of septic tanks.

Normally, the river water quality is one quality level lower than that desired. The number of municipal wastewater treatment plants in Croatia is small. Even the capital of Zagreb has no such a facility. In 1997, only 21% of wastewater was treated. Over that, 81% is mechanically pre-treated, about 6% is biologically treated, and 13% of water used in industry is pre-treated.

The water quality and quantity are monitored through a nation-wide monitoring network, which requires adequate improvements.

Underground waters have not been sufficiently studied so far.

Flood defences cover approximately 500,000 hectares. There are more than 460 torrents (flood rivers) that are partly regulated or in need of regulation. The issue of flood and torrent management should be one of the national priorities.

### *Waste*

Annually, about 9 million tons of waste is generated (2 t per capita). Three quarters of waste is process waste. The share of municipal waste in total waste is 13%, while sorted secondary raw material (over 95% comes from process waste) makes up 11% of total waste. Land-filling is practically the only solution for solid waste disposal.

Organised municipal waste collection covers less than 60% of the population. About 98% of total disposed waste ends up in 160 official (large) dumping sites which, with rare exceptions, have not been adequately engineered and, as a consequence, have no basic protective measures. In 80 dumping sites, hazardous waste is tipped along with municipal waste, and environmental pollution has been clearly detected in 40 dumping sites. Only seven landfills have been granted operating licenses.

Methane (landfill gas) emissions from the landfills make up 4.5% of total greenhouse gas emissions in Croatia.

Recovery projects have been initiated on several industrial and hazardous waste landfills. Almost nothing has been done so far regarding the engineering of the existing municipal waste dumping sites that should, pursuant to Croatian regulations, be either converted into landfills or closed down by the year 2002. No hazardous waste landfill has been built, and not more than 10% of total hazardous waste quantity is disposed in a regular and adequate manner. Only in Zagreb has the implementation of an integrated waste management been initiated to a certain extent.

### *Nature Conservation*

Due to its geographic position and diversity of relief, and in proportion to its size, Croatia has comparatively multifaceted habitats and ecosystems. One such specific habitat is the karst region.

About 8% of the territory is under some sort of protection within the 325 protected areas, eight of which are national parks, 10 nature parks, two strict reservations and so on. Horticultural landmarks (114) are the largest group. About 400 endemic plants and mushrooms and about 40 animal species have been recorded. An increasing number of species is endangered, which, for instance, includes 226 species of Spermatophyte and 41 species of mammals. Particular state care has been shown by the passing of the National Biological and Landscape Diversity Strategy and Action Plan in 1999.

### *Soil and Forest*

Over the total continental area of the Republic of Croatia (5,654,256 ha), arable land covers approximately 50 percent, forest land 44 percent, and arid land (for technical purposes) 6 percent. According to statistics, arable soil loss totalled 203,000 hectare or 5,205.12 hectare per annum in the period between 1959 – 1998. On the other hand, the total area of meadows, mire, reed land and fishponds increased by 44,000 hectares, while arable soil loss totalled 159,000 hectares or 4,076.92 hectares per annum in the same period.

Approximately 85 percent of forestland has a great manufacturing potential. Forests are mainly a result of natural growth. The results of forest degradation monitoring in Croatia indicate that considerable damage occurred between 1992 and 1998, on 15.6% to 30.3% (in 1995) of trees, with a slight trend towards an increase. In 2000, damage was registered on 21% of the various tree species. However, forest degradation has never exceeded the European average.

A particularly difficult problem is that of forest fires, most frequently in the coastal area. During 2000, 33,212 hectares were consumed by forest fires, mainly in Southern Croatia. Over that, 25% was covered by high and low forests. During the war, 243,700 hectares of forests were mined, which is 12% of total forestland.

### *Coastal and Island Area*

Most of the Croatian Adriatic is still oligotrophic and clean.

In the Northern Adriatic, rather intensive sea blooming resulting from increasing eutrophication was recorded in the summers of 1988, 1989, 1991, 1997 and 2000. Sea blooming was also registered in some parts of the Central Adriatic Sea.

The nutritive salts concentrations are mostly affected by the North Adriatic rivers, with the river Po contributing with over half of total phosphorus and nitrogen, i.e. approximately 75% of inorganic forms of nutritive salts. The majority of this import is of anthropogenic origin.

Centralised sewerage systems have been built only in larger urban and industrial centres. Less than 35% of wastewater is collected in the sewage systems, and less than 10% is treated in wastewater treatment facilities.

Another specific problem is that of illegal development, a nation-wide phenomenon, particularly in the immediate vicinity of the coast. No efficient mechanisms have been set up for addressing the problems caused by such building activity although enormous efforts have been invested in its prevention.

The islands are the most economically inviable parts of the coastal region. Regardless of the National Strategy of Island Development, state measures for the improvement of their position have so far produced no positive results. Emigration and depopulation are still a predominant characteristic of the Adriatic islands.

Fires are one of the greatest dangers in this region.

### *Chemicals Management*

There is no framework legislation on chemicals, which could be used as a baseline for improvements in the existing legal basis and for elimination of deficiencies resulting from the sectorial approach in chemicals management. Gradually, if slowly, the number of companies introducing health security and environmental protection programs, HSE program and ISO 9000 and 14000 is increasing.

So far, scientific research has failed to produce a sufficient basis for analysing the properties of the new chemicals. No information system has been set up for exchange of information regarding the movement of hazardous chemicals and hazardous chemical waste. Designation and packaging systems are also inadequate.

### *Transport*

Most of the transport is road transport. The vehicle fleet is obsolete, fuel quality below that in developed countries. Considering its impact on air quality, transport is one of the major health and environmental risks in urban areas. This is primarily due to the low quality of liquid fuels (high concentration of lead, sulphur and benzene) the improvement of which is amongst the highest priorities. Public transport has decreased by approximately 50% in the last decade. Development of new roads is on the increase while particular attention in this respect will be given to the karst regions.

### *Economy*

No mechanisms have been set up to encourage the adjustment of the economic sector to cleaner production. A comparatively small number of companies have ISO 9000 and, particularly, ISO 14000 certificates.

Legal, institutional and technical frameworks have been set up for prevention, alertness and response in case of accidents at work, during transportation of detrimental substances, in explosions and fires, accidental water contamination, accidental sea contamination and environmental accidents. A system has been developed for the implementation of the Environmental Emergency Plan, National Water Protection Plan, Accidental Adriatic Sea Contamination Emergency Plan. The rescue and eco-headquarters are organised both on the

national and regional (county) level, and communication units, emergency action units and expert units have been set up.

### *Biological Safety*

Apart from industrial biotechnology encompassing genetic modifications of micro-organisms important for industry, no commercial genetic modifications are conducted on plants and animals in Croatia. However, there is a possibility of import from the neighbouring countries. For that reason, a special law should be drafted.

### *Radiation*

According to the IAEA criteria, Croatia falls among the B type countries - radiation sources are widely used in industry, medicine and research, but there are no commercial nuclear reactors. Storage of LL and IL nuclear waste has not been resolved, but temporary repositories are both safe and well organised. Currently, about 50 m<sup>3</sup> of used up ionising radiation sources and other used up radioactive substances are stored in temporary repositories, and their activity is approximately 1.4 TBq. Preparations have been carried out for the selection and construction of a permanent storage facility.

The field of non-ionising radiation is not regulated by law.

### *Noise*

Noise protection has been insufficiently addressed in Croatia, particularly in the early phases of planning and development. There is a lack of data for calculation of noise immissions that have been registered by monitoring. The major noise sources have not been determined, nor the number of those affected by this type of "pollution". Competences are not clearly delineated. The Ministry of Health has initiated the drafting of the new Draft Law on Noise Protection. The establishment and improvement of the noise protection system, as well as the implementation of measures to achieve this goal are among the main objectives of the Croatian action plan "Environment and Health."

### *Environment and Public Health*

Pollution of air, water and soil, inadequate waste management practices, excessive noise and exposure to non-ionising and ionising radiation, have caused an increase in the number of sick, as well as a degradation in the condition of the already ailing population. It is estimated that poor potable water quality affects the health of about 10-15% of the Croatian population.

Microbiological pollution of food has been the cause of occasional epidemics. The major causes of epidemics are salmonella and toxic staphylococci, and trichina among parasites.

Since leaded petrol is still widely used in Croatia, it might affect public health, particularly that of the youngest population groups.

A particular risk left over by the war are land mines. According to estimates, about 10% of the territory is mined.

### *Institutions and Legislation*

Institutional organisation is still inadequate for the implementation of the principles of sustainable development. The competences of the Ministry of Environmental Protection and Physical Planning need to be broadened. There is still no specialised environmental agency but according to plans, one should be established in 2001. The environmental information system has not been set up. There is no systematic financing framework and the majority of laws and regulations need to be harmonised with the EU legislation. The establishment of a special Environmental Fund is in process. Neither in other sectors nor in the public domain have the sustainable development principles been sufficiently integrated. Awareness-raising campaigns and promotion of wider public involvement in daily political life and environmental concerns will have to be carried out on a more permanent basis.

### *Environmental Protection Priorities*

A series of actions and enormous investments have to be carried out in order to improve the quality of environment. As expected, solid waste and wastewater management are the priorities. Considerable investments (for instance, construction of a series of new waste landfills and recovery of the existing ones, urgent construction of sewerage systems in some 70 towns and construction of some twenty wastewater treatment plants) will have to be carried out in the following years. Special attention has to be given to hazardous waste disposal. Air quality will be improved through the use of fuels with reduced lead and sulphur concentration or completely lead and sulphur-free fuels. Additionally, this will be achieved through environment-friendly means of transportation for goods and passengers. Institutional strengthening will be of particular importance, and will, among other things, include the establishment of an environmental agency and environmental fund. This will also include the setting up of a comprehensive and singular monitoring and information system as well as training of personnel. Nature resources and protected areas management need considerable improvement. A list of priorities is given in each chapter.

## ***2.4. On Environmental Policy***

It should be noted that the environmental policy of developed countries (particularly in the EU member states) has substituted the initial environmental policy dealing with the existing environmental problems to the present sustainable development principles based on an integration of the environmental policy and the sectorial policies and changes in social and

economic behaviour, using numerous and various instruments to promote the principles of shared responsibility. With a view of solving the numerous existing problems and in order to ensure that the most critical problems will not recur in the future the Croatian environmental policy will have to be based on these principles, with a clear emphasis on prevention. Consequently, the substitution of the "pollution mitigation" with the "pollution management" approach will demand intensive involvement of all sectorial policies <sup>4</sup>.

The principle of partnership and shared responsibility implies the participation of all partners in the implementation of environmental action plans instead of subordination. This should create very efficient preconditions for the implementation of sustainable development principles. However, such approach demands that a considerably larger number of instruments be introduced and legislation be amended.

It is easily proven that such an approach is imperative in Croatia, particularly due to the numerous existing problems and also due to the other environmental obligations that will stem from the process of approaching the EU;

(1) Even a superficial analysis of obligations resulting from the desired and necessary EU integration shows that fulfilling of the commitments is not possible without planning of the environmental policy based on the sustainable development principles. Integration of the environmental policy into other sectors, institutional and human resources capacity building, determining obligations and responsibilities of all the partners, and use of efficient instruments (not only economical) will be more difficult task than fulfilling of technical standards and implementation of high-investment projects <sup>5</sup>. In practice, this means essential changes in entire society, and willingness of all the actors to implement necessary changes. Since this is not a simple task, it might pose a serious hurdle in the process of negotiations and association to EU.

(2) It is easily proven that cost of resolving problems is considerably lower when they are resolved at the source <sup>6</sup>. Such approach creates conditions necessary for avoiding of the problems and eliminating of the causes instead of addressing them at the end of the pipe when we have to deal with consequences.

<sup>4</sup> A need for pollution management can best be illustrated by a need to control greenhouse gases emissions and their gradual reduction. In order to achieve that it is needed to reasonably distribute permitted amounts of allowed degree of pollution to satisfy all the requirements in the society. That can be most easily achieved in the process of planning; through the selection of technology, locations, manner of management, etc.

<sup>5</sup> Many, even the most responsible persons are and have been claiming for years that this is not the right time for resolving of the problem (the situation we have been facing for decades and will probably continue to face unless political changes occur in the society itself that will change our attitude towards the environment) because there are no available funds. This is often an excuse not to do anything, not even that what can be undertaken with small (or no) investment. The environmental protection has not been recognised as an essential component of a potential of entire society and this document should contribute to rising of such awareness. It is often forgotten that not respecting the basic environmental standards might seriously endanger the most important Croatian resources; tourism, agriculture and forestry.

<sup>6</sup> Resolving the problems at the source is, to put it simply, the basic principle of the sustainable development.

(3) Determining of objectives and mechanisms for their realisation is undergoing dynamic changes. New guidelines and obligations are proposed. Timely and efficient follow up of such changes demands, in addition to clearly defined environmental policy, good organisation and improved knowledge of all the participants in the environmental policy making and implementation processes <sup>7</sup>.

## ***2. 5. Strategy and process of approaching the EU***

The soon involvement in the EU association process will request intensified harmonisation of the environmental policy with the EU's, which will certainly reflect on the contents of the document. Namely:

- The EU association presents (almost unconditional) **adopting of the EU measures and standards**. The EU practice indicates that the derogation of such measures is possible if based on firm arguments, but they need to be approved through negotiations. Additionally, the EU will not allow the use of low environmental standards as a competitive advantage. The sooner a larger number of uniform EU environmental instruments is adopted, the better are chances for efficient implementation of the environmental policy.
- EU accession will cause major administrative, technological and social changes, not only because of the environmental policy harmonisation.
- The financial burden of introducing individual measures will differ from one sector to another. Since it is possible to use experience of other EU member countries, and primarily of the countries that are already undergoing the accession process, it will be possible to introduce the necessary measures in a more cost-effective manner. The companies will be able to incorporate the costs into their prices without fearing loss of competitiveness. Further, there are no real threats that introduction of more stringent standards would affect inflow of quality foreign capital <sup>8</sup>.
- The expected increase in consumption (including transportation/mobility) must not result in an increase in energy and resource consumption and emissions.
- The consumers should be stimulated/encouraged to use their increased purchasing power to purchase services (e.g. repairs) and better quality products instead of increasing energy and raw material consumption.

<sup>7</sup> So far, inadequate organisation has been the basic obstacle to introduction of an adequate environmental policy. The imposed new concepts would certainly be more easily adopted if the organisational capacities were improved and a critical number of personnel trained.

<sup>8</sup> There are those who unfoundedly fear that the foreign capital would bypass Croatia if more stringent standards are introduced or the existing standards properly enforced. The majority of world companies have become aware of their share of responsibility for global and local changes in the ecosystem, and started meeting their obligations if for nothing else than for ethical principles. For instance, the leading global business corporations that want to manage their production on the principles of sustainable development have joined the Global Business Sustainable Development Council after the 1992 Rio Conference.

- The funds raised from specific sources of environmental pollution will be strictly earmarked for reduction of specific pollution i.e. environmental pressures.
- All the partners must be involved on the shared responsibility principle in preparation and implementation of the environmental measures.
- Principle of voluntary implementation of particular measures will be encouraged.

Direct copying of the developed countries and adopting of their experience at the face value would certainly not be sufficient for efficient environmental improvement and prevention of further environmental pollution.

Considering the specific characteristics of Croatia (diversity and sensitivity of the region, lagging behind in the process of transition, insufficient institutional capacities to meet the integration challenge, war-devastated areas, difficult economic situation, etc.), a regular and meticulous examination of the consequences of individual measures will be necessary, particularly regarding the implementation rate.

The Strategy has been prepared to the maximum possible extent to promote development rather than to set up restrictions based on obligations and prohibitions only. This should stimulate all the actors in the society for pro-active participation in development of their environmental protection plans on a "voluntary principle" as a motivating force. Thus, the Strategy should encourage concrete activities on all levels of local government and self-government, in all sectors and groups, and involve all individuals regardless of their position in society<sup>9</sup>.

## ***2.6. Strategy's objectives***

Objectives of the Strategy are:

- Environmental protection, conservation and sustainable use of natural resources
- Improvement of environmental management and prevention of environmental pollution
- Changes of legislative, administrative, financial and institutional framework on the local and national level, including the human resources capacity building with a view of approaching the EU
- Integration of environmental policy into other sectorial policies (tourism, energy, industry, agriculture, forestry, mining, transport, etc.)
- Establishment of a comprehensive and singular monitoring and information system
- Public-awareness raising and public involvement in the decision-making process.

## ***2.7. Methodology of the Strategy***

<sup>9</sup> Each individual assumes different role in the society – that of consumer, manufacturer, decision-maker, etc.

The following principles were respected in drafting the Strategy <sup>10</sup>.

1. *Drafting the Strategy as a Process*

2.

The Strategy has been drafted as a process, which should enable active role and assuming share of responsibility by all the partners in the society. The participation of all partners (individuals, national and local government and self-government, economy, science, education, etc.) should be ensured through the free flow of information, consideration for the needs of individuals, affirmation of the partnership principle and awareness-raising campaigns.

*Basic principles*

(1) **Integration of environmental policy into the sectorial policies:** If viewed narrowly, the Strategy is only a sectorial document. Process of its drafting and the selected methodology should enable integration of the environmental policy into all the fields and activities.

(2) **Partnership and shared responsibility:** Setting up of objectives and their fulfilment is possible only within a partnership of all the actors – general population, interest groups, business community, national and local government/self-government, and international community. Each party should assume its share of responsibility.

(3) **Changes of behaviour in production and consumption:** Efficient implementation of the environmental policy based on the sustainable development principles is not possible without the change of behaviour/attitudes in production and consumption.

(4) **Increase in number of instruments used for implementation of set activities, particularly the economic activities:** All the available instruments should be used to assist in the environmental policy implementation, primarily those related to its integration into the another sectors. Traditional instruments based on administrative bans and the "polluter pays" principle are insufficient. It is expected that the instruments (incentives) based on a voluntary principle, have the key role in this process.

2. *Ensuring Sustainable Development*

The Strategy offers an option to propose setting up of organisational and economic grounds that should enable implementation of the sustainable development principles. The term “sustainable development” as used in this document refers to the most used definition according to which the sustainable development is “development that meets the needs of the present generations without compromising the ability of future generations to satisfy meet their own needs.”

10 Order in which principles are mentioned in the text does not imply setting of priorities.

### *3. Contribution to Resolving the Global Issues*

In determining objectives and measures, care was taken of the fact that Croatia, as a member of the international community, is aware of its obligations and assumes its share of responsibility for resolving of the global environmental issues. Croatia will primarily take a pro-active standing in the fields of climate changes, ozone layer depletion, and endangered water resources, bio - diversity protection (particularly the wetlands), the karst and protection of sea and coastal regions.

### *4. Commitments from International Treaties*

All the commitments stemming from the international treaties signed by the Republic of Croatia, and bilateral agreements with the neighbouring countries, have been fully taken into consideration in determining the objectives and priorities.

**In the Strategy principle of sustainable development simultaneously refers to:**

**Environmental requirements** - (emission control) maintaining emissions within the nature carrying capacity limits; enable/permit only the projects that respect integrated protection of an ecosystem and individual species; use of renewable resources within the limits of their renewability and linking of non-renewable sources (e.g. fossil fuels) use rate with finding of alternative solutions.

**Sociological requirements** – ensuring better social conditions for all the parts of the society, e.g. improvement in housing conditions, health care, education, employment ...

**Economic requirements** – meeting the needs of the growing population demands permanent economic development. The income and expenses of private and public budgets must be balanced on a long-term basis.

### *5. EU Association*

Croatia's declared desire to start with the process of EU integration as soon as possible might result in promoting such priority objectives that do not the strictly pose national priorities and would otherwise be addressed in a later stage. This fact has been accounted for primarily through setting up of short-term objectives, where the priority has been given to the commitments from the so-called White Paper<sup>11</sup>. In this way, the Strategy is becoming one of the first sectorial<sup>12</sup> documents in the Croatia's accession to EU.

11 White Paper is a common name of the document that the EU has adopted in Essen in 1994 and which address the issue of the EU pre-accession strategy for the associated countries of Central and Eastern Europe.

12 In this context, "sectorial" is a conditional term since the environmental protection permeates into all other sectors.

## *6. National Needs and Interests*

Croatia is in many aspects similar to other countries, but it has its specific characteristics and resolving of these needs to be given priority. This primarily regards the karst region, coastal area and 1066 islands, uneven or rather scarce population distribution, biologically valuable areas, some areas of diverse climate, war-devastated areas, etc.

## *7. Local Needs/Interests*

Number of problems that request resolving exclusively on a national level is small in Croatia<sup>13</sup>. Most of the problems are such that they should be resolved on lower levels of territorial organisation and with other actors<sup>14</sup>. Such problems, which primarily engage local resources, are given the same priority as the national ones.

## *8. Group and Individual Interests*

In determining the objectives and activities, group and individual interests must be taken into consideration. Respecting of their interests might result in their high participation and realisation of some actions<sup>15</sup>.

## *Method of Work*

A status overview has been prepared on 10 topics with total of 30 subgroups with the financial and professional support of the World Bank. All the topics were intended to have precisely determined contents, from problem identification to determination of actors and financial means for their resolving.

An overview of ten topics and their subgroups, and the experts involved in the working groups is given in Annex III.

The task force facilitators were experts from the state authorities and professional institutions.

**The basic prioritisation criteria included** environmental pollution impact on (1) human health, (2) ecosystems and its (3) social and economic importance. The priority is given to the problems that have direct impact on human health. Based on the above-mentioned criteria, which were

13 There are no records on relevant impact of environmental pollution of public health. One of the environmental issues in resolving of which the "state" is the only actor might be that of liquid fuel quality (and hazardous waste). The high content of lead and sulfur in liquid fuel place Croatia in a very unenviable position among other European countries.

14 This, for instance, refers to wastewater treatment and waste management. The state should ensure conditions for other levels and actors to successfully address the problems.

15 The individuals and groups (stakeholders) are key motivation and professional potential for making the activities concrete. Their active involvement in creation of the Strategy (most of the NGOs) might become a moving force in some social environments.

reconsidered in individual groups, each working group determined a number (mainly five with some departures) priorities<sup>16</sup>. The list of priorities that were determined in such a manner is presented in the table “List of priorities by specific sectors” given in Annex IV.

During the next Workshop, with participants in a similar composition to those at the beginning of the work<sup>17</sup>, a narrow group of priorities has been selected over the fifty priorities determined by the thematic working groups, through the application of an expert method:

Organisation and investment

1. Waste management
2. Water resources management
3. Economic development and environmental impacts (transport, agriculture, industry, tourism, energy sector, mining)

Management

4. Soil
5. Forests
6. Bio-diversity and landscape conservation
7. Sea and coastal area
8. Air and climate changes

Organisation

9. Institutional capacity building

Since it is impossible to fulfil all the targets simultaneously and immediately, because of insufficient financial and human resource capacities, additional criteria have been used to determine their priorities. The criteria and their explanation are given in the following Table.

Table 1. Prioritisation Criteria

<b>CRITERION</b>	<b>SIGNIFICANCE</b>
Sustainability	Ensuring sustainable development; e.g. production of organic food, eco-tourism; renewable energy resources, protection of individual species and ecosystems
Socio-economic and environmental benefits	Importance for overall economic development and achieving the better living conditions
Bankability	Financial and technical feasibility of a project;

16 Identification of priorities was influenced by composition of working groups, and some of the participants advocated exclusively their interests. For such reason, bio-diversity issue was almost excluded from the priority problems and only the additional advocating enabled its inclusion in the document.

17 Thematic papers and changes in the structure of the Strategy to reflect the principles of the Fifth EC Environmental Action have been discussed by the local and World Bank experts during workshops.

## Realistic goals

	Realistic goals
Project preparation stage <sup>18</sup>	Completeness of design documentation: site documentation, building permit Support for already prepared projects
Cost effectiveness	Cost-benefit analysis; risk assessment
Fulfilling international commitments	Obligations ensuing from the Croatian international commitments, e.g. conventions and treaties
State and local interest groups	Level of significance; interest of state/region/city; interest of private capital; interest of a particular group
EU association	Fulfilling priority commitments in the accession process, e.g. the ones from the White Paper
Interest of donors/governments	Interest of those who want to financially support the projects: e.g. protection of particular species or ecosystems, trans-boundary pollution

These criteria were used as supplementary in determining the deadlines for implementation of priorities.

During the work, the fact was respected that each of the above mentioned issues has a level at which it should be addressed, an institution or several institutions that are competent to address the issue, as well as partners that are interested in solving specific problems. There are some priorities, primarily on the national level (e.g. clean energy resources, where the Government must adopt a decision on the introduction of unleaded fuel and on the reduction of sulphur concentration in fuels. Additionally, the presently state-owned oil-company must agree with the Government to introduce the required changes in production and hazardous waste treatment. Apart from pressuring the government, other partners or interest groups can achieve very little in this respect.), as well as on the local level (e.g. development of certain urban area or construction of local water supply system). There are also problems that demand simultaneous resolving on all the levels and by different partners (e.g. energy conservation – the Government must ensure legal and economic instruments, while all partners/sectors, including the households and individuals, must contribute to the implementation of programme activities, such as energy saving; traffic improvement – improvement in the fuel quality is the competence of the Government, spatial planning is the competence of the state, regional and local institutions, etc.).

In order to achieve the highest possible efficiency in introducing particular measures, all government/self-government levels and all the partners have been invited to closely collaborate in determining individual priorities. Some of the priorities will in this way be addressed.

<sup>18</sup> The experience so far showed that only a small number of projects reached the level of completeness sufficient for their immediate implementation. The introduction of this criterion stimulated numerous partners to initiate preparatory works.

immediately, and some will not be addressed until after the Strategy implementation has been established through the Regional, Local and Sectorial Environmental Action Plans which should follow as a logical step in efficient implementation and introduction of the Strategy.

Furthermore, due to geographic and economic diversity all the problems cannot be equally addressed everywhere. There are major differences in implementation of some measures in urban and rural areas, coastal region, islands and inland (e.g. level of solving the wastewater or solid waste treatment). This has been accounted for in elaboration of the activities, primarily to motivate all the partners/interest groups to find less expensive solutions and the solutions that are adjusted to local requirements. Namely, one cannot forget the fact that human and financial resources are pretty scarce in Croatia.

There was a clear intention to repetitiously mention certain activities in every sector, where they have been recognised as a problem or a solution. The reason behind this was to show all the partners that all activities in the environment are inter-connected, i.e. to show the meaning of sustainable development, partnership and shared responsibility in the every-day practice.

The intention was also to advise about the forthcoming obligations that will stem from the process of approaching the EU, thus making a connection, wherever this was considered useful, between certain activities and the corresponding EU legislation.

The Strategy should be a comprehensive and a very detailed document, which should provide solutions for all the required activities, related to specific environmental issues. In such a manner, each chapter has a list of objectives and mainly a very long list of proposed measures/activities<sup>19</sup>.

Each of the activities (measures) was presented in the form of tables, which indicated an objective, measure, action level (national - N, regional - R, local - L), responsible actor, schedule (0-2 years: short-term, 2-5 years: medium-term and beyond 5 years: long-term activities), link with other sections (to show cross-linking of measures - resolving of one problem almost always permeate into other sectors/areas, etc.) and link to EU directives and/or international commitments (impact of the measure on legislation harmonisation; assistance in the process of approaching the EU).

The letters (PR) indicate the priority projects, which have been prepared for the donor conference and for which international (technical and/or financial) assistance would be welcomed.

## ***2.8. Methodology of work and public participation***

<sup>19</sup> Document is divided into sectors and specific environmental fields. As already mentioned, some problems, i.e. measures for their solving have been mentioned in different chapters. The connection between the measures and the EU legislation has been mentioned wherever this was possible.

The Environmental Strategy was drafted in co-operation between the Republic of Croatia, i.e. the Ministry of Environmental Protection and Physical Planning, as a competent state administrative body and the World Bank through the Contract on Grant for the 1999 Project Environmental Policy Development and Regulatory Capacity Building. A review of the state of environment and its protection for the 10 thematic areas of environmental protection: 1) legal, management and institutional issues, 2) environment and health, 3) sea and coastal area, tourism, 4) waters, 5) waste management, 6) air protection, 7) industry, energy and mining, 8) transport, 9) biodiversity and geological heritage, 10) soil, agriculture, forests and forestry, was prepared by working groups comprising the representatives of bodies of state administration, expert institutions, economy and NGOs sector and the World Bank experts. The problems, activities that will contribute to their solution, actors, deadlines and financial means have been identified in all thematic papers. These papers were used as a basis in drafting the first Pre-draft Strategy in June 2000.

During the Strategy preparation, three workshops were organised (May 1999, June 2000 and November 2000). Besides the workshops, the content of the document, methodology and its objectives were presented in all (21) counties, to the business community (Croatian Chamber of Economy), media (Croatian Press Association), non-governmental sector (NGOs), individual companies and local self-government, to whom an invitation for co-operation was extended. Upon the request of different interest groups, additional consultations were conducted for prioritisation of activities (Water Resources Management Sector, Economy Sector with the Croatian Chamber of Economy, certain counties and towns). Thus, the NEAP preparation involved over 1,000 persons as representatives of all relevant institutions. Before the official discussion, the working copy of the document at different levels of completeness was accessible at the web pages of the Ministry (from early November 2000), and was emailed to all interested parties at their request.