



**APAT**

Agency for the Protection of the  
Environment and for Technical Services

# **Guidelines for environmental education in the agency system**

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## PREMISE

*Environmental education is one of the most valid instruments available today to help us communicate to individuals and communities a concept known as “environmental culture”, a concept representing a body of knowledge, values and skills concerning both the protection of the environment as well as the health and quality of life of the humans inhabiting it.*

*Environmental education complements the agency system’s institutional activities, playing a vital role in transferring to citizens notions resulting from the scientific analysis of data on the state of the environment possessed by the Agencies themselves, and in making these notions meaningful – interpreting them from the perspective of sustainability – so as to favour everyone’s active involvement in the environmental strategies being promoted by international, community and national institutions.*

*In this context, it is easy to understand how the actions proposed become more effective when they are integrated and coherent with each other. This explains why the agency system needs to understand and communicate the strong points on which its future activities should be based.*

*This document titled “Guidelines for environmental education in the agency system” is the outcome of a process aimed at comparison/exchange and search for synergies that took place within the Working Group formed by the Referents of the Agency System for Environmental Communication, Information, Capacity Building and Environmental Education (C.I.F.E.), in response to the mandate expressed in the founding document titled ‘Carta di Padova’ (Padua Charter) for improved links between the various agencies and the system through the identification of criteria, methods and quality standards that are both shared and homogeneous yet take into account differing institutional functions and local contexts.*

*The work summed up in the following pages describes the reference scenarios and represents the second part of a series of initiatives launched with the recent publication of the report titled “Environmental education in the Environmental Protection Agencies”. It also converges in (and at the same time contributes to) a “Strategic Plan” of activities and initiatives in the various contexts described above and which, thanks to this new guiding instrument, will be able to respond in an increasingly effective manner to specific needs for in-depth knowledge of environmental issues and stimulate appropriate responses by citizens who will have gained greater awareness and responsibility for their future.*

Giorgio Cesari  
Director General of APAT





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## 1. INTRODUCTION

### Why guidelines?

To answer the question that gives the introduction its title, “Why guidelines?”, we should consider the word “why” in the original title in terms of its dual semantic meaning of “why” and “because” (a duality missing in English and French): a meaning involving both cause and purpose.

If we consider the first meaning, asking ourselves “why” it was considered necessary to carry out a given action, an action that had never been carried out before, means asking ourselves what were the up-stream motives causing us to carry out that particular action. Given that it is usually easier to carry on doing what has always been done, the motives impelling us to do something new are usually linked to difficulties disturbing us, a problem that we feel obliged to tackle, or a question involving ideas that need to be sorted out and that requires replies.

As far as environmental education is concerned, the causal motivations that inspired us to draw up these guidelines arise from a situation of uncertainty and turbulence (even crisis, or what is more, a growth crisis) that this educational sector has been experiencing for some time now, both in Italy and Europe. In recent decades, environmental education has covered many different areas: from a form of education towards an awareness and respect of the natural world, often characterised by a strong element of romanticism and anti-modernism, to a form of behavioural re-education intended to eliminate people’s “ecological errors” (this form of education is often characterised by a prescriptive tendency and the failure of management and scientists to understand the “reasons” for human behaviour – which is often far less irrational than the so-called experts would believe). Today, in the context of European sustainability choices, active citizenship, and widespread permanent empowerment, environmental education needs to orientate itself towards a form of community education for sustainability. We can find confirmation for this trend in the work programme of the first regional meeting on education for sustainable development of the Economic and Social Council of the United Nations held in Geneva on 19 and 20 February 2004:

*“Education for sustainable development can develop the capacity of individuals and communities to work towards a sustainable future. The aim is to create citizens who are more aware, better-informed, sustained by moral values, responsible, critical and prepared to act for a healthy productive life in harmony with nature”.*

However, we are still a long way from knowing exactly what this must and may mean, in terms of development of theories, pedagogical-didactic planning, relations with the “changing school” and with the adult population, our position and our way of addressing education in the context of the integrated educational system and life-long learning policies, the conception of the right to study that is above all a right to a cri-

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tical and participatory competence, and, above all, from being able to translate these into actions. This is why we need guidelines.

If we wish to consider the second meaning - it was necessary to do a certain thing, something never done before, "because..." - we need to explain what forward hopes impelled us to do it. In general, these hopes relate to a change of scenario that one hopes to bring about, while acting as a propulsive, or at least a co-propulsive force and contributing to its positive dynamics.

As far as environmental education is concerned (we will continue to use this term because it is also the codified term at ministerial level: the main thing is knowing and communicating exactly in what sense it is being used), the finalistic hopes that impelled us to develop and diffuse these guidelines are easily explained (there are at least two, although they are closely linked):

- a) The first hope relates to imposing system cohesion (internal agency system) on the rather inhomogeneous and fragmentary education methods still in use. Given that every Agency has its own cultural-historic specificity and its principal regulatory reference framework, we do not intend to apply compulsory homogenisation from above. However, a basis of shared guidelines would strengthen the system, making it more visible and effective, and therefore also capable of creating relations, alliances, cooperation with external bodies;
- b) The second hope, mentioned above, involves opening up the agency system towards the INFEA (Information Training Environmental Education) system (becoming an integral part of it, a process already taking place in many Italian regions), towards autonomous schools with individual POFs (Piano d'Offerta Formativa - document outlining the school's teaching programme), towards the health system (cooperation - also in terms of education - between environmental guardians and health promoters is a consolidated strategic choice at European level), towards NGOs promoting environmental culture activities, towards the Agenda 21 forums, towards that complex, multifaceted reality composed of institutional and social forces operating at grassroots level to promote the sustainability of the present and future development of our Country in education.

The objective to be attained is building systems and networks, and seeking and practicing integration so equipping oneself with guidelines does not imply self-referential closure or a rigid identity but the exact opposite: it is a way of making ourselves known, of showing willingness to collaborate, a desire for transparency and a readiness to relate to and meet with others.

The System of Environmental Protection Agencies brings to this context a series of environmental education activities which also take into account the scientific and techni-

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cal basis of the data collected from the various environmental matrices and their integrated reading, and the results of the control and monitoring activities combined with concepts of environmental sustainability in order to respond to the objectives linked to protection of the local environment and to the human-environmental relationship aimed at collective prevention.

This document is intended to supply useful reference indications as well as a sense of belonging to that group of actors who wish to find a valid reference in the development of environmental education activities and, broadly speaking, diffusion of environmental culture.



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## 2. FUNDAMENTAL CONCEPTS

### 2.1 Education and environment from a historical perspective

Education and environment have always had a two-way relationship – at least in the context of the more progressive pedagogies – although it was not until recent times, in response to our planet’s ecological crisis, that they met in the expression “environmental education”.

Modern pedagogy has always perceived its theoretical foundations and its innovative didactic developments to lie in human relations with the environment. Even the “founding fathers” of European education, from Comenius to John Locke, from Jean Jacques Rousseau to Johann Heinrich Pestalozzi all considered the environment - intended as the complex and varied reality lying beyond the classroom - as a valuable source of experiences, resources, and educational discoveries. And all of their most illuminated successors (up to John Dewey and pedagogical activism in the 20<sup>th</sup> century) identified educational renewal with leaving the walls of the schools to go towards the community, towards the local neighbourhood considered to be a fertile “educational park” and a rich system of historical and anthropological stratifications and socio-cultural relations.

Might we make so bold as to suggest that all (good) modern education is *environmental education* because it is not teacher-focussed education but extends beyond the classroom and is capable of re-uniting in transverse projects open to the natural-social reality beyond the school walls the rigidly and artificially divided disciplines and subjects offered to pupils by traditional “scholastic knowledge”? We believe it would be wrong to answer yes. No-one denies that all the best modern education is based on an opening-up towards the environment but that does not mean that the best modern education can be considered what we would term *environmental education*. It was *active education* based on experience and research and not just on the study of books. It was therefore “*local teaching*” or *environmental teaching* in the sense that it used the local neighbourhood and the environment to improve teaching (to teach more actively, with more field work, linking study and research, use of books and discovering things). Its purpose – attained successfully – was to innovate the sclerotic classroom-based teaching methods which were both abstract and excessively teacher-focussed. The fundamental difference between these forms of teaching and *environmental education* (especially if considered in terms of *education for sustainability*) lies in the fact that for the former the environment mainly represented a great educational resource that was widely available beyond the classroom and school walls, while for the latter (environmental education in terms of education for sustainability) the environment represents a system of ecological balances that risks changing – beyond the classroom and school walls – but which can be helped to improve by means of education.

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From the Industrial Revolution onwards, the impact of human activities on our planet has produced profound upheavals that have turned into real environmental emergencies in recent decades, creating a new situation in the history of man and in the even more ancient history of the planet, a situation that is both disturbing and dangerous. For this reason something new and unique needs to take place in our societal way of living and in our relations with the environment leading to a huge improvement in our relational knowledge, our sciences of reciprocity and our communication skills. Areas such as communication skills, relational knowledge and science of reciprocity (between human-beings and between human-beings and the environment) are destined to play an ever-greater role in the sustainability of our production and consumption relations, of our possibilities of living in peace and social equality, and of our links with the environment.

These are all things that the younger generations can learn, in school and in the community. The main differences between a disciplinary and trans-disciplinary education with a generically innovative character based on neighbourhood-based and environmental teaching and environmental education in the sense of education for sustainability (defined in the Rio Summit and Aalborg Charter) are not in their methodologies (which are largely shared: research, experience, project, interdisciplinarity, activism and so on) but in their aims. Environmental education:

- *Considers the environment to be a system of relations and humans as one of the organisms living in the said system;*
- *Conceives humans in terms of factors within the eco-social system even though it is nearly always with a leading role;*
- *Bases the cognitive-learning process on the systemic principle, that is, upon the capacity to apprehend relations and differences;*
- *Makes it possible to insert the actors participating in the project in a dimension of complexity and context of sustainability.*

It is widely known that sustainable development needs to be based upon a broad and shared (by governments and peoples) strategic scheme concerning both present and future, and that it is a dynamic process based upon an intra- and inter-generational pact. In 1992, the UN organised the World Conference on Environment and Development in Rio de Janeiro in order to translate the concept of sustainable development into political decision-making, strategic planning and concrete operational choices. The Earth Summit resulted in important commitments, in-depth documents, policies and objectives with huge political, economic and social repercussions. It also led to Agenda 21: 21 refers to the century that has now begun and Agenda refers to the need for each country, each neighbourhood and local community to draw up a schedule of priority tasks to be carried out in the 21<sup>st</sup> century in order to guarantee the sustainable development of their population and environment, thus enabling them to par-

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ticipate in a democratic and active manner in the sustainable development of the population and environment of the entire planet.

In recent years the prospect of sustainable development and the strategy of local Agenda 21s have strongly influenced the cultural and political reflections of governments and citizens all over the world, and those of EU countries in particular. The strategy of the local Agenda 21s, adopted by numerous European cities under the 1994 Aalborg Charter, is based upon a shared, responsible and active vision of the role of local communities in making the political, economic, ecological and social choices regarding their futures. This will obviously involve investing considerable cultural as well as material resources in the information, communication, and education of local communities, because – as underlined in the Sixth European Environmental Action programme – these areas play a vital role in making local communities and their citizens aware of their responsibilities and active participants.

These themes will be investigated in greater depth, inviting further reflection, in subsequent sections of these “Guidelines” but were anticipated here to show how the positive historical link between education and environment going back to the progressive dawn of modern pedagogy underwent that change giving rise to today’s concept of *environmental education* in terms of education for sustainability and the activation of educational processes not only carried out *on* the environment and *within* the environment but also, and above all, *for* the environment.

## **2.2 The meaning of environmental education within the Agency System**

### *2.2.1 The evolution of the concept of environmental education*

Environmental education originally took the form of education for the defence and conservation of nature: the first *Convention for the preservation of the natural states of flora and fauna* mentioning environmental education was signed at international level in 1933. The concept of environmental education is also referred to in the first international documents drawn up in the 1965 *Bangkok Conference on the Conservation of Nature and Natural Resources* as a cultural promotion tool for the conservation of our natural heritage. Until the end of the 1970s those speaking of environmental education considered the environment in terms of a “natural environment”.

The numerous environmental disasters of recent decades (Chernobyl, 1986, to mention only one) modified this approach resulting in the conviction that we cannot consider the problem of the environment without considering humans and human culture as factors of that environment, thus moving the focus from “nature” to the environment as an eco-system and as system of relations between anthropic activity and the biospheric and socio-cultural context interacting with it. The sphere of interest of environmental education began to widen, going from aspects merely concerning the conservation and protection of nature to include the entire physical, social and cultural space

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in which humans live. In the UN Conferences held at Stockholm (1972) and Tbilisi (1977) environmental education's new role (political, cultural, epistemological, ethical, and pedagogical-didactic role) though initially somewhat shaky, increasingly took hold.

The 1987 Moscow Congress showed that environmental education must be oriented towards the concrete problems of the human environment in an interdisciplinary perspective taking account of its complexity. Also underlined on this occasion was the importance of the community's awareness and responsibility for assuming values and, therefore, behaviour respecting and protecting the environment.

However, it was not until the early 1990s that environmental education was ready to renew itself in the form of sustainable development. We have already mentioned the importance attributed to this "new" form of environmental education by the Agenda 21 document drawn up at the 1992 Earth Summit at Rio de Janeiro and its centrality in the 1994 Aalborg Charter. The International UNESCO Conference at Salonica (1997) on *Environment and society: education and sensibilisation for sustainability* placed strong emphasis on the need for rapid radical change in consumption and production models, identifying education as a particularly suitable instrument for promoting sustainable development through a widespread process of participation and learning capable of involving governments, local authorities, universities, enterprises, citizens, associations and mass media. The universe of environmental education in terms of education for sustainability is a complex systemic universe where the behaviour of the individual is closely entwined with that of the community and society, and their productive and political choices.

Thus the true aim of environmental education as it is increasingly – and rightly - perceived today is to help people understand the problems of our time in all their complexity and systemicity, and to help them participate in the difficult choices that can help to improve or resolve them. Changing the behaviour of the individual – all too often stressed as the ultimate aim of environmental education – could prove senseless or even harmful if we fail to take into account the wider context. Just think what would happen if tomorrow all Italians decided to leave their cars in the garage and use public transport in response to our educational initiatives: the result would be total chaos). Finally, education for sustainable development was also mentioned in the documents ratified at Johannesburg in 2003 which included:

- The *Political Declaration* where it was considered a necessary condition for the active participation of citizens in decision-making processes related to sustainability;
- The *Action Plan* where education is treated as an instrument for the implementation for sustainability objectives and is therefore mentioned – albeit in in the generic terms characterising the Plan as a whole – in reference to nearly all intervention aims.



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*The European Union tackled environmental education themes in the Resolution of 24 May 1988 which lists the insertion of environmental education in all sectors and activity programmes among priority actions. In 1993, the European Parliament adopted a new Resolution on environmental education inviting Member States to jointly define – on the basis of long-term programmes – the principles of a real European environmental education policy and in particular to:*

- *Integrate the environmental dimension in all aspects and at all levels of teaching;*
- *Concentrate their efforts on developing teacher training programmes;*
- *Define a minimum shared content for school curricula;*
- *Promote life-long learning relative to the environment;*
- *Promote the development of interdisciplinary research and training centres in the environmental education sector.*

*The same document also underlines the fundamental role of schools and teachers in developing and implementing this policy and the need to develop an exchange network involving the various actors in this sector.*

In 2003 the Regional Environment Ministers (UN.E.C.E.) met in Kiev where they approved a Statement on education (education, training and research) for sustainable development underlining the need to promote this key factor for change as a fundamental element of good governance together with technical and scientific research applied to the development of environmental knowledge.

The Ministers also invited UN.E.C.E., UNESCO and the European Council to develop a “Regional Strategy” with the aim – for both citizens as well as civil society and Public Administrations – of developing and reinforcing the capacity to make judgements and choices in favour of sustainable development with all the environmental, social and economic implications involved, increasing skills to achieve a healthy and productive life in harmony with nature.

A Task Force met to hold a “First Regional Meeting” at the UN.E.C.E. headquarters at Geneva to finalise a work programme and to discuss the first draft of the strategy. This first draft laid down the following aims with regard to development of education:

- Improved production and consumption
- Improved behavioural patterns and attitudes
- Improved information, participation in decision-making processes and promotion of greater and more in-depth environmental awareness
- Promotion of life-long education
- Development of problem-solving skills and promotion of practices and networking

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An important role can be played in this context by educators, who can facilitate communications between Authorities and civil society, and by students at all levels who can help develop critical and thinking skills.

Progress achieved in this context will be verified and discussed in the 2007 Ministerial Conference "The Environment for Europe".

This is the past and the present of environmental education. Its transformation into education for sustainability may reveal its future role as the true, unitary education of the 21<sup>st</sup> century, an education augmenting its cognitive and training value and capable of gathering the various scientific and humanistic disciplines of our times under a single roof.

### *2.2.2 Environmental education as a prevention method*

One of the fundamental principles underlying the strategies of the Environmental Agency System is cultural promotion in terms of research, information, training and environmental education, all actions that enable environmental control activities to turn into environmental prevention and protection activities with a view to sustainable development, a process that would be impossible without a strategic action aimed at the cultural enrichment of both operators and citizens.

Protecting the environment means much more than subjecting random matrices to analytical controls. As well as periodical controls, environmental protection requires the promotion of permanent, innovative and conservative environmental intervention strategies that integrate all information system planning, research and creation activities, as well as promotion of participation and documentation, experimentation, quality control, training and education activities.

Environmental education aims to reinforce the protection of the environment by diffusing a sustainability culture among all age groups, favouring forms of active knowledge and effective behavioural change processes, stimulating cooperation, participation, networking, administrating relations, communication, methodologies, and using instruments in line with the principles and objectives of environmental education itself. The diffusion of an environmental culture leads to tangible benefits in terms of behaviour, participation in community life, professional growth and employment opportunities in the environmental and scientific and technological innovation sectors as well as promoting encounters between peoples and countries.

Environmental education plays a key role in guaranteeing the rights of all citizens to health and safety as well as a better use of the environment.

Education is therefore an instrument for prevention and protection, capable of promoting awareness-raising actions, facilitating the assumption of responsible and informed behaviour in order to favour the participation of the entire community in the construction of a sustainable future, respectful of the rights of future generations, of the various forms of equilibrium of our planet and of biodiversity.

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The average citizen, and main interlocutor of the Agency system, undoubtedly expects to receive reliable, accredited news inherent to a given environmental situation and this expectation translates into the obligation to inform of all actors in possession of environmental information under the Aarhus convention. However, steps need to be taken to ensure that those requesting access to this type of information have the tools to interpret and use such data correctly, also taking into account the limits of representing a complex reality by means indicators and indices.

We should also specifically consider the role that the Agencies can play in order to reduce in advance the gap between a risk and its emotionally determined perception. It is precisely because correct risk evaluation is so difficult that we should ensure extreme accuracy, the technical and scientific legitimacy of the environmental reference data and transparency.

Today, environmental education involves all sectors and themes, addressing all citizens without distinction by means of information, awareness-raising and training actions, concerning all periods of life and involving both formal and informal education agencies.

Nature, biodiversity and landscape need to be defended and possibly restored not just for “selfish” motives (because the continuous and profound damage to the environment threatens our health and safety) but because of its intrinsic importance, for reasons that are also aesthetic and ethical. The fragile balances existing on our planet are not merely “resources” to be wisely preserved for their “sustainable” exploitation both now and by future generations, but are precious as such and unique in the Universe. We cannot tackle environmental themes without making ourselves responsible – at global level – for problems concerning fair access to natural resources.

Social cohesion, self-respect, happiness, a sense of identity and belonging to human communities, the right to food, health, education, work as well as the incredible diversity of cultures, languages and spiritual values are directly related to the integrity of environments, biological diversity and the health of ecosystems. Some visions of “sustainable development” are rather ambiguous: we need to realise that the Earth, which is a finite system, sets precise limits to the powers of humanity.

The above considerations clearly reveal that ARPAs (Regional Environmental Protection Agencies) offer useful and qualified assistance to the world of schools and civil society, an affirmation confirmed by the requests made to the Agencies by schools of all types and levels for support to teachers in the form of accurate knowledge of the local area and practical learning experiences in the field. And it is in this area that ARPAs play a vital role. It takes more than mere information to modify behaviour: knowledge does not automatically result in more coherent behaviour respecting the environment. What is needed is personal involvement through participation and action. Great attention must be reserved for the reduction of the individual and collective ecological imprint through the adoption of concrete forms of “eco-intelligent” behaviour.

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The Agencies could follow in the steps of various European universities by providing a good example and implementing consumption- and emission-reduction measures in order to legitimately propose environmental education in the form of coherent behaviour.

### 2.3 Integration with other types of education

As explained above, the concept of environmental education is in continuous evolution, and educational systems tend to change in time. This sector is undergoing major transformations resulting from various factors that will be briefly illustrated in this chapter.

Firstly, it must be underlined that education no longer exclusively coincides with “didactics”, its former long-term partner. The cognitive faculties of children have been proven to be superior to levels estimated in the past. Learning activities must therefore be tailored to this potential and the entire system has been subjected to debate in response. These capacities must be stimulated and with them the critical skills that children employ in learning processes. Not only are the targets of educational activities more “capable” than was previously believed but these capacities need to be stimulated by a type of learning termed “active learning”. Notionistic didactics have given way to knowledge based on relations, acquisition of skills, critical and creative learning, and the conquest of knowledge mechanisms. These are the new operative tools that are united by their ultimate aim which concerns a type of learning that we could define as participatory. The target of the learning activity is no longer a passive subject, an empty container to be filled, but, being both critical and unique, is an active subject acting critically and contributing directly to his/her learning pathway.

The approach to learning tools has also undergone major changes: the targets are no longer limited to school-age children but now include adults. This represents an important step ahead towards a society reaching its own forms of awareness, above all with regard to the environment, and, therefore, also environmental education. A focus on adult education was also expressly indicated as a priority by the European Council meeting in Lisbon 2000.

We must also take into account the constant social, cultural and economic changes affecting our lives that daily take us into new contexts that require our life-styles to adapt. An up-date in educational terms can only take the form of a life-long learning system. Everything changed in the modern era, and culture tried and tested new forms of pedagogy in constant evolution, new forms of learning.

Against this background, the *education system becomes integrated*. This definition refers to an educational structure that is not only formed by historic actors like schools but which is integrated with all those educational realities representative of local contexts and that are both institutional and social.

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Bodies, cultural associations, unions, voluntary organisations as well as regional and provincial environmental protection agencies all flank the world of the school. All these actors bring their different skills to widespread life-long learning. The first step is for the integrated system to become part of the cultural heritage of school teachers and of all those playing a role in education to ensure that cultural innovations can take concrete shape. Educational skills spread among the actors and at local level. The resulting system is an integrated system aiming to supply a more complete and exhaustive culture.

This educational network – which would ideally be rooted in and representative of the local neighbourhood - should be capable of ensuring high levels of cooperation and joint planning that draw upon the range of skills that represents the main strength of the integrated system.

Within this new scenario a major role will be played by *health education*.

The paradigm identifying the health-illness pathway was generally a prerogative of the medical community which used its scientific knowledge to decipher its most inner workings. In time, mechanistic interpretations came to prevail, using relations of cause and effect to explain and understand the reasons for human suffering. While this approach produced exceptional results in terms of the management of the main illnesses and diseases and the overall improvement of community health, it tended to obscure the importance of the environmental, social and economic improvements that concurred in bringing about these processes.

In fact, the health promotion glossary defines the new Public Health as “the professional and public interest in the effect of the global environment on health”<sup>1</sup>. Unlike the old Public Health which focussed on combating individual health risk and environmental factors the new Public Health also includes in its range of action health determinants linked to the socio-economic environment like marginalisation, social exclusion and poverty<sup>2</sup>. The Health Promotion strategy made a considerable contribution to the evolution of the former concept of Public Health to the current concept defining it as “...a social and political concept aimed at improving health, prolonging life and improving the quality of life among whole populations through health promotion, disease prevention and other forms of health intervention [...] This new public health is distinguished by its basis in a comprehensive understanding of the ways in which lifestyle and living conditions determine health status, and a recognition of the need to mobilize resources and make sound investments in policies, programmes and ser-

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<sup>1</sup> *Health Promotion Glossary*. World Health Organization, Geneva, 1998.

<sup>2</sup> *Social Determinants of Health. Solid Facts. International Centre Health and Society* - World Health Organization – Regional Office for Europe, Copenhagen, 1998, Eds: R. Wilkinson and M. Marmot.

*Poverty and health: evidence and action in WHO's European Region*. Copenhagen, WHO Regional Office for Europe, 2001 (document EUR/RC51/8).

*Health systems confront poverty*. Copenhagen, WHO Regional Office for Europe, 2003 (Public Health Case Studies, no. 1) Eds. Ziglio E., Barbosa R., Charpak Y., Turner S.

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*vices which create, maintain and protect health by supporting healthy lifestyles and creating supportive environments for health.*"<sup>3</sup>.

According to this paradigm safeguarding health is an issue whose specific connotations are such that they require an interdisciplinary approach, in terms of professional skills, and a cooperative approach in terms of intervention by the various bodies, institutions and agencies operating within the community.

The identification criteria involved in this new approach state that Public Health is:

- Based on the participation of the community;
- Promotes the empowerment<sup>4</sup> of the community and health promotion;
- Extends beyond the traditional boundaries of the public sector to include efforts on the part of enterprises in the private sector and not just in the public sector;
- Uses a range of tools, including research, to channel efforts for its improvement;
- Adopts a systemic ecocentric conception rather than an anthropocentric and sectoral concept<sup>5</sup>;
- Proposes a model of global and social health requiring an intersectoral<sup>6</sup> multidisciplinary approach.

The relation between health and environment clearly emerges in this context. On the one hand, this is because they use the same analytical-logical approaches, and on the other, because the ecogenetical process of many nosological areas is given even greater emphasis; the very concept of health/illness is placed on a different scale and considered within a multicausal framework.

This new conception makes it necessary to overcome the prescriptive concepts typical of health education and to shift to an education based on integrated knowledge privileging the acquisition of skills useful for making informed choices and decisions with

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<sup>3</sup> *Health Promotion Glossary*, World Health Organization, Geneva, 1998

<sup>4</sup> Empowerment for health: the acquisition of greater authority is a process whereby people gain a greater control over the decisions and initiatives concerning their health.

*Piccolo Dizionario della Qualità*, by Stefano Beccastrini, Andrea Gardini, Sergio Tonelli, Centro Scientifico Editore, 2001, Turin

<sup>5</sup> The 1992 UN Rio Conference on Environment and Development recognises the role of urban communities in shaping and increasing a development that combines health and sustainability and locates environmental interests within the social and economic structure beginning with human needs. Human-beings are the main focus of interests, commitments and actions for sustainable development whose primary objective is a healthy productive life in harmony with the environment.

<sup>6</sup> Intersectorality: a recognised relationship between one or more parts of different social sectors created with the intent of tackling a determined issue and aimed at attaining health results or intermediary health results in a way that is more effective, efficient and sustainable with respect to what the health sector could have achieved acting alone.

*Piccolo Dizionario della Qualità*, by Stefano Beccastrini, Andrea Gardini, Sergio Tonelli, Centro Scientifico Editore, 2001, Turin.

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regard to one's behaviour.

However, integration is not limited to health education; it involves other forms of education like *civic education* which was conceived in response to the deficit generated by the swift disintegration of values thrown into difficulties by inhomogeneous development models and factors resulting in critical states. Civic education speaks the language of environmental and social sustainability, of correct human relations and respect for shared rules. Here again we encounter the common thread of sustainable development. The crisis of values experienced by "convivenza civile", or civic cohabitation, is largely due to a development model that is excessively focussed on performance and objectives. Culture and values are not effectively transmitted by part of the social context and the resulting mechanisms may involve a lack of attention towards others, our surrounding environment and the rules of civic cohabitation. In this context, institutions as well as, to a lesser extent, the various operators are faced with the difficult and delicate task of reconstructing the weaker areas of the social fabric and strengthening the loosened links of cohabitation and belonging.

The family is undoubtedly an important educator in this context. Schools and all other competent actors must offer the right educational support without losing sight of the reticular nature of the educational objective. Civic education, which coincides with education towards peace, interculture, citizenship, has the role of stimulating an informed redefinition of the priorities of individual and community life; it involves an anthropological search whose aim is to get to know more about the different cultural contexts and test models of sustainable citizenship.

"*Legality education*" also shares this final objective of creating social, economic and cultural context characterised by a fair and sustainable life style which is a shared value present in all actions involving social relations.

The diffusion of legality and democracy serves to improve the relations between individualism respecting shared rules and to create a fairer society. Schools, families, public bodies, administrations and associations are all educators in this context. The aims of "legality education", which is in turn interconnected to other forms of education, are to favour individual and collective democratic maturity and re-evaluate the sense of civic living.

As we have seen the model resulting from the sustainable approach to development is characterised by a particular attention to aspects, areas and themes that are neglected, or even, what is worse, compromised by the current economic growth model. Sustainable development proposes an economic growth model that not only respects the environment but also respects social justice. A greater social cohesion can result from democratic decision-making processes. The 1992 Rio de Janeiro summit outlined an important step in this process which took the name Local Agenda 21s. The latter is an important instrument for the *participation* of citizens because it provides the opportunity of translating the need for giving everyone the chance to decide their own development models, or grass-roots models, into concrete socially shared actions.

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The local dimension regains a meaningful role and function implementing a participatory process from the grass-roots upwards and permitting the growth of actions inspired by the real needs and expectations of local citizens, and by the limits and opportunities present at local level.

This process which involves all social actors in choices concerning local development is a positive value that merits attention when drawing up planning policies.

The examples draw renewed attention to the importance of environmental education and the promotion of sustainable development in increasing citizens' awareness of their ability to participate in decision-making processes and in developing this skill by means of a long-term process involving the cultural spheres of social contexts.

Skills and cooperation are the two driving concepts of the *integrated educational system* which, once the necessary adjustments and fine-tuning have taken place, can only result in positive fallout for social, economic and obviously cultural contexts. An integrated educational system will allow society to evolve and create the foundations of a civil and informed way of living, of a sense of individual identity and respect for the identity of others, of sustainable management of local areas, and of the participatory choices that should underlie all policies.



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### 3. THE REFERENCE CONTEXT

#### 3.1 The role of the Agency System

While all Agency operators somehow act as environmental educators who contribute to increasing environmental awareness and professionalism (after all they communicate with the public and provide training and information on environmental themes), environmental education as such should be managed by special permanent units drawing upon the temporary or permanent contribution of those operators within the Agencies who are capable of providing specific skills.

The Agencies guarantee the environmental education system a considerable input of technical and scientific skills, the availability of data on the state of the environment supplied by their information systems, legal documentation, the opportunity for young students to take part in environmental work and research experiences, tools and methods for "field trips", as well as a global interrelated vision of environmental problems, and a vocation and direct interest in building up relations and developing cooperation between all those involved for a shared aim of environmental sustainability.

Operating in the sector of environmental education means developing a range of activities aimed at:

- *Increasing knowledge* of the environmental issue through the sharing and comparison of scientifically correct and comprehensible data and information based on environmental data that is monitored daily and made available for use;
- *Stimulating direct "participation"* in resolving environmental problems, promoting environmentally aware and responsible behaviour;
- *Involving the entire "adult" world* not just "the citizens of tomorrow".

To this aim, the agency units dealing with environmental education mainly operate upon two levels:

1. *Coordination or support for the regional system* – a function that may be fully or partly allocated to the Agencies.

It is obviously important that Agencies develop their own approach to developing these functions:

- a) By producing and diffusing validated data, actively cooperating with regional information systems, thus contributing to correct risk communication and development of environmental policies by Local Bodies;
- b) By diffusing at every level and in every sector of its organisations the culture and practice of environmental sustainability;

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- c) By ensuring good internal and external comparison procedures, simple functions, openness to change, and a level of attention that is more than routine in the regional networks;
  - d) By supporting research and documentation related to environmental education by universities, schools and non-profit-making bodies;
  - e) By promoting and supporting the participation of operators in the regional system and of schools in European and international networks and projects;
  - f) By promoting and supporting special projects on an inter-provincial, regional and inter-regional basis and environmental information, communication and awareness-raising campaigns;
  - g) By favouring cooperation and partnerships between institutions, schools, associations, economic classes and social partners.

2. *Promotion of activities and initiatives* or involvement in similar activities promoted by other actors.

In this context, the Agencies manage projects, prepare learning materials, etc. In this case too Agencies should stand out for the *quality* of their operating approach.

The following must be guaranteed within the individual Agencies:

- Socialisation on the basis of the principles and methods of environmental education;
- Knowledge of the national system;
- Diffusion of sustainability practices.

The Agencies must adopt strict criteria for directly managed projects:

- Correspondence with the above-mentioned principles;
- Appropriate management methods according to a framework consisting of a preliminary analysis of the needs addressed, definition of objectives, tests, fine-tuning, revision, monitoring, and final evaluation.

The Agency System has also drawn up agreements with the Working Group of Referents for Environmental Communication, Information, Training and Education (C.I.F.E.) involving functions, products and services commissioned by the Federal Council and on the basis of the contents of the '*Carta di Padova*' (Padua Charter) signed by the Agency Referents which *recognises communication, information, training and environmental education as having the role of a "strategic tool" for the Agency System with the aim of fulfilling the environmental prevention and protection functions according to the rationale of sustainable development.*

In this sphere, a variety of useful instruments are available, including:

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- The document titled "L'educazione ambientale nelle Agenzie per la Protezione dell'Ambiente" (Environmental education in the Environmental Protection Agencies) containing an outline of activities and initiatives carried out at national level by the single agencies belonging to the APAT-ARPA-APPA system together with useful references provided by operators in this area;
  - This document titled "Linee Guida per l'Educazione Ambientale nel Sistema Agenziale" (Guidelines for Environmental Education in the Agency System) containing shared educational methods, quality standards of services carried out and evaluation criteria for the implementation of training and environmental education initiatives by the Agency System;
  - Coordination at national level of shared communication, information, training and environmental education initiatives and the link at international level to the EU "Green Spider" network for the promotion of environmental communication;
  - The web page of the C.I.F.E. working group (Environmental Communication, Information, Capacity Building and Education) run by APAT at [www.apat.it/cife](http://www.apat.it/cife) for the exchange of information and experiences on themes typical of environmental education with links to the web sites of the single national, regional and Autonomous Provincial Agencies, to the site of the Ministry of the Environment and Territorial Protection (MATT) and to the SINANET site which contains information about the Centri Tematici Nazionali (National Thematic Centres) responsible for collecting environmental data in Italy;
  - The Environmental Data Yearbook which contains an outline of the activities of the agency system – from control activities to information and education activities – issued every year by APAT and containing environmental data collected and processed according to 180 indicators divided into 18 thematic areas and also available in concise form. In this regard, there is a chapter on Information, Capacity Building and Environmental Education activities supplying a number of experimental indicators in response to activities carried out in these fields in the Agency System, and for the future diffusion of environmental culture in our country.

### **3.2 The Agency System and INFEA (Information, Training, Environmental Education)**

As we have seen, education for sustainable development is becoming increasingly widespread and important in Italy, not just in terms of the contents and educational themes dealt with, but also because of the commitment requested and opportunities offered to those myriad social actors involved in the definition of environmental policies. The aim is to strengthen an efficient system that is fully shared and jointly managed by the State, Regions, Autonomous Provinces and Local Bodies for an evolution

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towards certified and guaranteed quality strategies.

In this context, it could be of great use to identify common objectives complying with national and European policies whose ultimate end is the development of systems on a regional scale.

The agency system and the I.N.F.E.A. system – thanks to its strong local imprint - can support regional development, with their own organisational and methodological approaches, diffusing a new integrated environmental culture characterised by predominantly scientific aspects as well as by features more strictly related to communication and education.

The INFEA system was the result of a Ministry of the Environment programme which had the aim of actively managing local contexts by creating structures linking the central and peripheral systems in the areas of information, training and education, for use not only by schools – the main target of the educational proposal – but also by public administrations, SMEs and trade associations.

These objectives are described in the *“Linee di indirizzo per una nuova programmazione concertata tra lo Stato, le Regioni e le Province Autonome di Trento e di Bolzano”* (Guidelines for a new joint programming by State, Regions and the Autonomous Provinces of Trento and Bolzano), a document ratified during the State-Regions Conference (23 November 2000). This document affirms the need and opportuneness of defining tools for the planning, coordination and verification of environmental policies at both national and regional level. With regard to the latter, explicit reference was made to the activation of a Regional Coordination Structure – or to the reinforcement of existing structures. Their role is to favour the orientation of the various actors responsible for environmental planning as well as to promote initiatives and manage actions of cooperation useful for the attainment of the information, training, and environmental education policy objectives.

The way these organisations should be structured and who should be responsible vary according to the different regional contexts and in some cases the Regional Environmental Protection Agencies themselves are responsible for these functions. This is also due to the important role assigned to the ARPAs by the document in question which presents the agency system as a body capable of guaranteeing the Regions the necessary scientific and technical support thanks to their capacity to interpret environmental problems accurately and at local level and the resulting identification of educational needs. Thanks to its in-depth knowledge of the local background this system is the most qualified to act as a link between environmental protection needs and the cultural promotion of protection.

The tools required to develop environmental awareness and interaction and integration of the various actors are agreements between the State and Regions, and between Regions and the single Agencies ensuring the involvement of all actors and public and private interlocutors representing the different institutional, scientific, professional and associative realities and the principle of joint responsibility.

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As far as State-Region relations are concerned, the INFEA Permanent Technical board of the State-Regions conference, represents a move towards a National System of Information, Training and Environmental Education (INFEA). The State, Regions and Autonomous Provinces also developed similar forms of cooperation during the implementation of the INFEA 1989/91 and 1994/96 three-year programmes.

The construction and functioning of this complex system formed by networks that interact with each other and/or by networks within the networks will be facilitated by the creation of information networks perfectly connected to those in use locally linking the nodes of the system and supplying useful and diversified information services.

However, the implementation of environmental education networks is a far from easy task rendered difficult by the differing political, economic and social conditions existing throughout Italy which result in different times and speeds for the effective setting-up of a system of networks.

This is also revealed in the different methods and intensity with which the ARPAs/AP-PAs intervene in the development and practical application of the Regional/Provincial Environmental Education Planning Document. The Regional Environmental Education Planning Document was explicitly requested by the INFEA system as a vital tool for the attainment of the objectives and expenditure commitments established during the State-Regions Conference. This is underlined in the resolution of 17 January 2002 in which the State-Regions Conference approved the decision specifying the procedures for acceding to state funding for the implementation of the 23 November 2000 Guidelines.

The contents of the Regional/Provincial Planning Document reflect the commitment of the Region/Province to defining the planning of environmental education activities and the need/opportuneness of drawing up and promoting real cooperative links with the bodies, including ARPAs/APPAs, that may contribute to the attainment of specific aims.

The different levels of integration of the Environmental Agencies are such that some ARPAs intervened in the preparatory or final stages of the drawing-up of the document – these ARPAs are neither promoters nor editors but cooperate with INFEA structures and work on joint projects; at the same time there are regions where ARPAs enjoying a more consolidated tradition of collaboration are involved in continuous permanent relations.

The above considerations reveal the importance of monitoring that takes place parallel to the activities in accordance with EU environmental policies and the guidelines for new joint planning between State, Regions and Autonomous Provinces of Trento and Bolzano relative to INFEA activities of 2000. To this end it becomes absolutely necessary to define a set of indicators and quality standards that can be applied at regional and local scale to reveal the results produced by government choices that have been implemented as well as eventual lacunae through the analysis of progress that has taken place.

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### 3.3 Interaction with other actors

*When bodies, organisms and actors of various types and levels find themselves attempting to carry out sustainable development operations and having to carry out their own tasks related to local planning or socio-economic programming, they are usually faced with a non-existent reference framework and experience difficulties in identifying strategies, procedures and solutions that take into account the problems implied and tackle them.*

*This makes it necessary to improve the actions of the single actors in the context of a system, through the definition of shared objectives, integration of instruments and resources available.*

*The need to involve citizens and enterprises makes it vital to overcome a formalist approach based on competence hierarchies and to direct our attention to a concept of governance focussed on the interaction between bodies and local actors.*

Environmental education be inserted in all existing educational systems which could be distinguished on the bases of the type of education offered:

1. The *formal* education of training and education institutes;
2. The *non formal* education carried out in work places or in the context of activities of organisations or groups from civil society or by organisations or services set up parallel to formal systems (such as artistic, music and sports courses or private course for exam preparation) which may include local bodies, Environmental Education Centres, the Health System, etc.;
3. The *informal* education that may be unintentional learning or learning not recognised as such via diffused cultural channels like television information and "acculturation" and other products that are not intentionally educational like advertising, music, theatre, etc..

Within the context of the INFEA system the Regions and Autonomous Provinces, co-operating with other Local Bodies, have started to set up regional environmental education systems (networks) based on networks of relations of varying complexity with actors operating in the sector and on a network of centres providing services and resources for sustainable development education.

The Regions and Autonomous Provinces therefore assume responsibility for programming, realising, coordinating and monitoring the regional systems as well as playing a decisive role in the construction of the national system. As part of their coordination activities the Regions can support the numerous bodies at local level with actions providing guidance and orientation, thus creating the conditions and opportunities necessary for proposals and initiatives to develop within an overall scheme designed to respect roles.

The institutional commitment of the Regions may help to bring about a more effective

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synergy between the Ministry of the Environment, the other Ministries, the Regions and Bodies involved in this process, thus abandoning the former trend involving the implementation of uncoordinated occasional projects.

*For some time now, the commitment of Local Bodies has extended beyond regional programmes for sensibilisation and diffusion of environmental education among citizens in order to involve – in various different ways - all the actors taking part in education for sustainable development.*

In any case, if the many actors present within the educational scenario (see table below) are involved in drawing up the guidelines and strategic choices of sustainable development policies, they will have to play their role with a high level of interaction. It is against this very background that the agency system could become a mediator for strategies of management of environmental problems, on several different levels, between institutions and central and local policies, between stakeholders, between different languages that may not always easily convertible.

*The institutional task of the Agencies is therefore to build up and manage on-going relations with the above actors who all hold legitimate interests.*

<b>ACTORS</b>	
<b>INSTITUTIONAL SPHERE</b>	
• European Commission	• ENEL (Electricity board)
• Ministry of the Environment and Protection of the Territory	• ISTAT (Italian Statistics Institute)
• Ministry of Health	• Law enforcement bodies responsible for environmental protection
• MIUR (Ministry of Education, Universities and Research)	• Others
• Other Ministries	<b>SOCIAL SPHERE</b>
• Istituto Superiore di Sanità (National Health Institute)	• Citizens
• APAT (Environmental Protection and Technical Services Agency) and Agency network	• Families
• Regions	• Environmental associations
• Autonomous Provinces	• Municipal tourist boards
• ARPAs/APPAs	• NGOs
• Regional Schools Board	• Opinion groups
• Schools	• Political parties
• Local Health Boards	• Mass media
• Provincial Administrations	• Others
• Municipal Administrations	<b>KNOWLEDGE SPHERE</b>
• Mountain Communities	• Universities and Research Bodies
• Parks and Reserve Management Body	• SSIS (School for Specialisation in Secondary School Teaching)
• Regional Superintendencies	• IRRE (Regional Institute for Educational Research)
• Magistracy	• Museum system
• Municipal Service Boards	• Others
• Consorzi di bonifica (public bodies responsible for coordinating activities in the water protection and irrigation sector)	<b>ECONOMIC SPHERE</b>
• Irrigation Body	• Businesses and cooperative companies in various sectors
• Drainage basin authorities	• Trade associations
• Port authorities	• Consumer associations
• Environmental authorities	• Union and/or professional organisations
• Water supply bodies	• Suppliers
	• Clients
	• Others

### 3.3.1 The school system

A programme agreement drawn up between the Ministry of Environment and the Ministry of Education in 1995 established environmental education as a cross-curricular cultural area involving various subjects within the school system although the separate nature of the subjects and, above all, the “separatist” approach to the way that they are taught, especially in secondary school, does not exactly help pupils to understand its complexity.

As early as the '90s (1996 - La Ferla Memorandum “The Italian school for environ-



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mental education" 1997 – Fiuggi Convention "At the environmental school") the school was asked to rise to the *challenge of sustainable development, promoting environmental education at every level in the best possible way possible*. The above-mentioned documents state that environmental education should not be a single subject, but a common thread running through all subjects.

In the document titled "Educazione in cammino" (Education on the move), the contribution of the examining work group for the National Conference on Environmental Education held in Genoa in April 2000 states that *education for sustainability consolidates its role in the new context of autonomous schools, imposing itself as a form of lifelong learning, using research-to-action methods, supplying transversal skills capable of interpreting local development from social, environmental and economic points of view and competences capable of educating citizens for participatory planning and the realisation of sustainable development*.

In the autonomous school environmental education will act as a link in relations with the local community. The dialogue between schools and local communities can lead to various forms of cooperation. Students, as well as their teachers, are privileged actors and the Agency System can create a privileged relationship with them that is capable of conditioning future models of consumption and production.

In identifying educational needs in schools it is important to bear in mind that environmental education is not a new subject that requires introduction onto school curricula nor is it an environmental literacy programme completing technical and scientific training. It should be considered in terms of an interdisciplinary reflection on the various forms of knowledge acquired with the aim of bringing about a systemic and non-sectoral approach to knowledge inspired by sustainability principles in a broad sense.

The interdisciplinary nature of environmental education is not limited to the cultural links between various school subjects but also involves the coordination of the actions of various educational bodies, each of which contributing its specificity and competences to strengthen educational opportunities. It will therefore be necessary to identify transversal knowledge pathways drawing upon various disciplines and involving other educational bodies, public bodies, associations and families to support schools in a search for methodological, didactic and organisational innovation.

Within this framework, the increased autonomy of school institutions leads, on the one hand, to evident and particular difficulties in terms of links and coordination with respect to programmes on regional scale, and on the other, the activation of POFs (individual teaching programmes) could provide an opportunity for building relations of effective cooperation with other actors present locally.

However, in order to respond to real local educational needs, schools must become active within the local scenario, assuming the role that the autonomous system has reserved for them and synchronising its speed with that of the reference framework. Educational processes must therefore develop simultaneously inside and outside of

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schools to ensure that the young generations do not experience the frustration of feeling helpless in relation to an adult society that pursues models of consumption and power.

The new school reform (Enabling Act No. 53 of 28 March 2003 published in the G.U. n. 77 of 2 April 2003 and Legislative Decree of 19 February 2004), which reviews the Italian school system eighty years after the Gentile Reform, introduced the expression *environmental education* to the curricula of all schools providing compulsory schooling.

Environmental education appears alongside five other areas of education (citizenship, road safety, health, nutrition and relationships) under the heading "*educazione alla convivenza civile*", or "civic education", adopted as an umbrella for all these separate areas of education and definition for the learning and skills characterising all study areas in the "scuola primaria" (formerly known as "scuola elementare") and "scuola primaria di primo grado" (formerly known as "scuola media").

For schools, the inclusion of environmental education pathways among curricular activities represents an occasion for coordinating and integrating a network of public and private bodies and individuals for the planning/realisation of environmental education activities within an integrated training system and for educational support for participatory local development processes, making it possible to create:

- Institutional networks of schools aggregating with shared aims and projects belonging to similar or dissimilar local contexts;
- Inter-institutional networks of schools opening up to other Institutions operating within the same area (e.g. Schools and Parks, Schools and Local Authorities, etc.) on joint projects;
- Agreement protocols and programme agreements with Associations, Institutions, Local Administrations for specific objectives or environmental education pathways;
- Cultural exchanges with schools at national, European or extra-Community level given the powerful means of communication (Internet, e-mail) available to today's students and teachers;
- Conventions taking the form of contracts defining roles, competences, costs relative to specific teaching projects or staff training plans which may be assigned to extra-scholastic training agencies;
- Service contracts for supply of services by external experts for a fixed term (taking care to ensure that schools maintain their educational planning functions);
- Participation and support for local Agenda 21 processes and activation of School Agenda 21s;
- Participation in network projects (healthy cities, cities for children, alliance for climate, ecoschools).

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Environmental Protection Agencies can offer the school system the following:

- Support for planning and realisation of educational projects;
- Specific competences on different environmental themes;
- Up-to-date data;
- Visits to laboratories;
- Field trips accompanied by experts;
- Informational and teaching material;
- Teacher training.

### **3.4 Strategies for the development of networks**

#### *3.4.1 Organisational models*

The organisational structure of education for the sustainable development activities of the various agencies reflects the various models provided for by regional regulations; nevertheless, in general terms, the agency system draws upon various organisational models in the various regional realities:

- Centralised models: in this type of set-up, activities are organised and implemented by specialised units drawing upon excellent methodological and technical qualities; this model is useful to the network because it supplies project quality and enables in-depth investigation of themes;
- Diffused models where educational activities are developed with the aim of supporting local networks with a considerable technical input; these models facilitate the growth and quality of the network overall and do not involve large investments for organisation and resources;
- Mixed models where a central unit with predominantly planning- and coordination-oriented functions is flanked by semi-structured peripheral teams that are consolidated on the basis of the specific projects in question; this model balances a tendency to specialise with the need to act in a structured way at local level as well as being coherent with many of the organisational set-ups existing within the Agencies.

Overall, the presence of different organisational models within the Agency system can be considered a bonus, and, in the presence of effective coordination, it can give value-added to the comprehensive evolution process of the system.

The system's overall *coordination* function is therefore a key element in transforming a series of differences into a whole that is capable of offering quality input to the network.

### 3.4.2 Criteria for participating in the network

In order to comply with the requirements of a network the multifaceted organisational aspects characterising the nodes of the agency system must be conceived in response to a scenario where the agency system and the single agencies form a network or network of networks inserted in a broader context.

If we interpret the situation as a network of interacting nodes, and if we share the hypothesis that this scenario is closest to the basic principles underlying new forms of knowledge in the environmental sector, we need to bear in mind a series of parameters that may indicate, in a qualitative sense, the potential of each node, network or network of networks to belong in a positive manner to a larger system.

Regardless of their level, peripheral organisational units belonging to an agency, agencies themselves and the agency system all belong to a network where they play a role that is partly established by their institutional regulations and by their organisational features, and partly derives from the requests made of them by the human and environmental context and by the other nodes in the network.

From this point of view, we should observe – for the various levels of complexity being considered – a series of parameters that can be used to evaluate the potential of each node or group of nodes as part of a network and their current and expected conditions as shown in the table below.

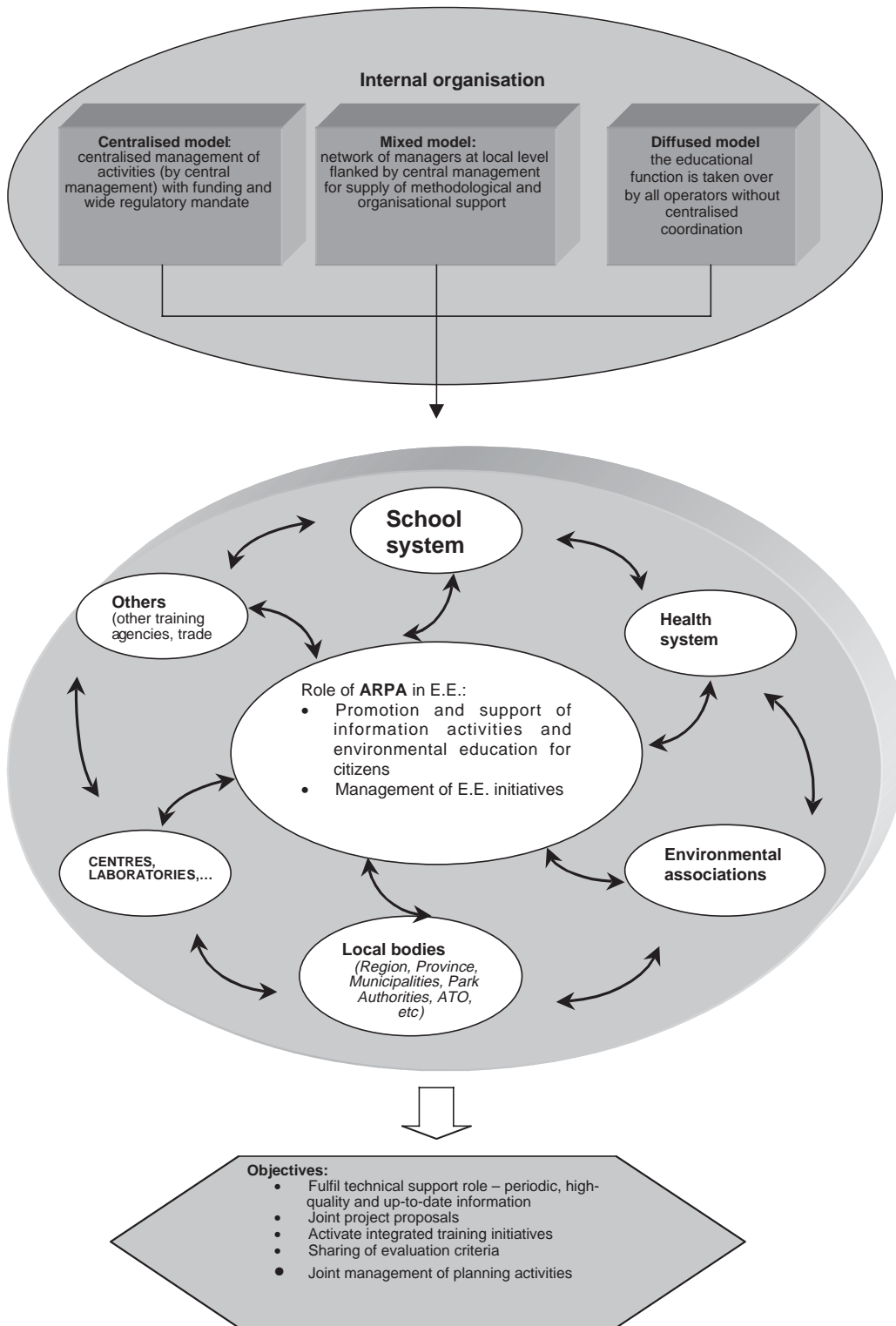
<b>Main Parameters</b>	
<b>Identity of nodes</b>	This is represented by the specific institutional regulations, by the organisational set-up, by the goals and by the competences present; the identity is produced by all those characteristics that allow an external observer to understand the operational potential available.
<b>Recognisability</b>	<u>Recognisability</u> is complementary to identity and derives from the ability to transmit the contents of identity towards the outside in a precise and immediate manner; a node identity that lacks the possibility of recognition loses network value and augments its self-referentialism; for this reason, agency image promotion activities should include this concept among their own ones; recognisability should be increased in order to allow the other nodes in the network to make optimum use of our potential. A network system whose nodes possess identity and highly recognisable specificity allows the value-added of its processes to increase
<b>Operational specificity</b>	The <u>operational specificity</u> resulting from the identity assumed and recognised within the system is a characteristic that should be evaluated in terms of an overall system analysis. The specificity of an agency linked to the competence relative to a particular issue may be very high or low according to the complexity characteristics of the network within which it operates. A complex and highly structured network often has nodes characterised by similar specificities, whereas specificity is often very high where the operational context is very simple and limited, and may result in excessive dependence on the part of afferent nodes. The polarisation that may be determined by the presence of efficient and effective links translates into an important resource for the entire network.

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<b><i>Nature of links</i></b>	The <u>nature of links</u> between the different nodes is important because their strength is also network strength; unconnected or disconnected nodes make transmission of information and cooperation difficult; it is advisable to evaluate the adoption of instruments and strategies strengthening links such as structured information exchanges (bulletins, news, scientific communications, experience reports, joint project proposals, etc.), the adoption of thematic and methodological coordination areas, the implementation of the principle of subsidiarity; it is very important to bear in mind that in a situation of multi-referentiality links are multiplied; while on the one hand this represents a great opportunity in terms of possibilities for input and output, on the other it can be very demanding in terms of managing relations with the consequent risk that less attention is paid to management of internal processes.
<b><i>Reaction capacity</i></b>	The <u>reaction capacity</u> of the different nodes expresses their capacity to respond to the system's requests and depends on the capacity to analyse the demand, to anticipate it, to create responses coherent with the node identity and specific nature of the request; the higher the levels of the parameters above the higher the level of the reaction capacity.
<b><i>Capacity to adjust</i></b>	The <u>capacity to adjust</u> to external situations and the system's requests is complementary to the reaction capacity; the capacity to adjust is inverse to rigidity and can be increased by adopting organisational flexibility criteria or internal organisation models giving emphasis to processes rather than procedures, implementing a result-oriented rather than a rule-bound approach; also of great importance is the adoption of a constant organisational diagnosis activity that allow rapid identification of the changes required to satisfy the demands of the system.
<b><i>Information system</i></b>	The <u>information system</u> of the network is an indispensable resource for guaranteeing quality of work; in fact, the network receives a quality incentive through the possibility of obtaining rapid information that is pertinent to its roles, easy to decipher and store, and not redundant. An information system with these characteristics also presupposes the adoption of a shared computer language and equipment that are accessible both in terms of manageability and cost.
<b><i>Sharing and joint management of resources</i></b>	In an advanced phase of evolution of a network system <u>sharing and joint-management of resources</u> – not just economic, but also human, documentary and equipment – are highly desirable. This possibility would facilitate economisation processes and make the network's future more sustainable. A preliminary level of resource sharing could involve the creation of areas of the system delegated to documentation centres, skills banks, support centres for transversal themes (operator training for example).
<b><i>Organisational and logistics standards</i></b>	As far as <u>organisational and logistics standards</u> are concerned, it should be pointed out that the possibility of belonging to a network is strongly conditioned by the existence of an effective relational and communication system; this means accepting the idea of a threshold of basic equipment enabling communication: the system should ensure the presence in all of its nodes of computer equipment, Internet connections, operators capable of guaranteeing inter-connectivity; it should be added that survival within the network must also be guaranteed by a minimum budget threshold ensuring minimum levels relative to the values of the above parameters.
<b><i>Ethical values</i></b>	Of vital importance is the sharing of the network's <u>ethical values</u> which serve to bond the system and offer value-added to actions carried out and relations built up.

**Environmental education in the ARPA/APPA agency system**



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## 4. THE EDUCATIONAL PROCESSES

The expression “educational process” contains two concepts: that of a process, or something dynamic that evolves in time, and that of education, which refers to a change taking place in an individual that takes place as the result of a learning experience.

The basis of the educational process is its planning quality, that is, an organisation that is coherent and based on knowledge of needs, expectations, motivations, cultural reference codes, teaching and communicative methods, and assessment tools.

The educational process is:

- *natural*, that is, it is natural in the same way that humans are;
- *unitary*: the educational process is holistic and involves the whole person;
- *integrated*: this refers to the context, the educator and the student;
- *dynamic*: it is an evolving process;

and is characterised by the following variables

- the *definition of the actor*, that is, the identity of the social actors, and project and process protagonists on which a given strategy is based;
- the *definition of the range of action*, that is, the contexts in which the educational strategy takes place and the problems being tackled;
- the *definition of the implementation procedures*;
- the *definition of the assessment procedures* used in the strategy.

The educational processes must therefore be:

- permanent;
- open to all members of the community;
- based on acquisition of skills rather than notions, and mainly centred on “relational” values.

### 4.1 Analysis of educational needs and users

The identification of educational needs represents a fundamental phase of the planning process of environmental education activities and is intended to correlate them to the physical and socio-economic context in which they will be carried out.

During this phase it is necessary to consider a number of conceptual and methodological aspects qualifying environmental education which suggest that when plan-

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ning educational pathways we should avoid an over-technical and static approach to environmental problems, an approach that does not leave room for ethical and behavioural aspects critical for an economic and social development correlated to the protection of the environment.

Seen in this light, educational needs cannot be reduced to a merely *cognitive dimension* – in the initial phases of contact and acquisition of environmental issues above all, the greatest attention should be undoubtedly be focussed on such important aspects as knowledge of the environment and its complex phenomena – but their identification must always proceed, in an integrated manner, via the “*emotive dimension*”, stimulating interest, motivations, attitudes, curiosity in the search for alternative cultural models; in this way, educational actions will be able to favour the cultural growth of the individual/community in terms of knowledge, capacity, attitudes, motivations and moral commitment.

The *educational needs* (both perceived and un-perceived) that qualify an environmental education initiative may refer to society as a whole or to specific sectors (production, public administration, schools, consumers, etc) and may derive from:

- environmental “signals” in a broad sense such as pressure factors, the behavioural aspects of a given community, the unsustainable use of resources, etc.);
- community and national policy trends;
- issues considered relevant or given priority status by the local and regional community;
- analysis of risk perception and of need for risk-related communication.

All educational actions must always be targeted at the acquisition of two basic sustainability concepts: the *dematerialisation of the economic system*, that is of the quantity of renewable and non-renewable natural resources converted in order to supply the production structure and current consumption models and the *informed participation* of all the actors involved in the planning and implementation of on-going processes.

Attempts are being made on many sides to organise the many problems and emergencies affecting the environment in a systematic manner and to prioritise them.

The following documents represent an important point of departure for the identification of fields of action and priority environmental issues to be addressed by educational intervention.

- “*The environment in the European Union at the turn of the century*”, published by the European Environment Agency in 1999;
- “*Environment 2010: our future, our choice*”, the *Sixth Environmental Action Programme of the European Community*;



- “Strategia d’azione ambientale per lo sviluppo sostenibile in Italia” (Environmental action strategy for sustainable development in Italy), CIPE (Interdepartmental Committee for Economic Planning) Resolution No. 57/2002
- *Annuario dei dati ambientali (Environmental data yearbook)* – published annually by APAT

At regional level it will be necessary to refer to the most recent government legislation. Further research and assessment instruments can be found in statistical surveys aimed at increasing awareness/perception of environmental problems by both organisations and individuals (citizens, students, consumers, businesses, etc) on themes involving their habits and behaviour while at work and at home.

Research and analysis of educational needs, given their vast number, necessarily implies an a-priori selection on the basis of special criteria.

To this end, below is a list of criteria that could be used to prioritise educational needs.

PRIORITY CRITERIA	DESCRIPTION
1. Results expected in terms of environmental improvement	Qualitative and quantitative dimension of results expected from project in terms of reduction of pollution levels, number of persons who will change their lifestyles, extent of improvement of quality of environment, etc. <i>According to this criterion, priority projects are projects for which the greatest quantity of results are expected.</i>
2. Extent of additional educational action necessary (level of educational commitment required)	Qualitative and quantitative dimension of additional promotional and preventive educational activities to be carried out as part of project. <i>According to this criterion priority projects are projects requiring the least integration or modification of educational actions.</i>
3. Effectiveness	Relationship between results expected and extent of educational action necessary (criterion 1 / criterion 2). <i>Priority projects are projects with an optimum relationship between results expected and educational efforts.</i>
4. Amount of additional resources needed	Amount of resources (premises, equipment, staff, goods and services) in addition to available resources required to implement project. <i>From this point of view, priority projects are those for which the smallest amount of additional resources are required.</i>
5. Efficiency	Relationship between extent of educational action and additional resources required (criterion 2 / criterion 4). <i>Priority projects are those with optimum relationships between activities carried out and resources required.</i>

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PRIORITY CRITERIA	DESCRIPTION
6. Operational feasibility	Degree of concrete feasibility in the socio-environmental context of the educational action foreseen by the project. <i>Priority projects are those which are easiest to carry out in the current organisational and operational context.</i>
7. Extent of environmental problem motivating the project	Number (prevalence, incidence) of individuals affected by the environmental problem. <i>Priority projects are those where the largest population is involved</i>
8. Degree of social damage	Level of political and social concern caused by existence of this problem in the community. <i>Priority projects are those with the highest level of concern for a problem and greatest pressure to find a solution.</i>
9. Acceptance of the objective	Level of sharing and acceptance of objectives (results expected in terms of reduction of environmental damage) by the community. <i>Priority projects are those with the highest degree of acceptance and sharing of objectives.</i>
10. Community involvement	Project's potential to actively involve social actors and population. <i>Priority projects are those with the highest involvement potential.</i>
11. Negative consequences resulting from failure to solve problem	Extent of negative consequences for future health of community caused by failure to intervene effectively by means of project concerned. <i>According to this criterion, priority projects are those with the worst foreseeable negative consequences.</i>

The negative consequences for the environment, whether local or widespread, are merely the result of the daily actions of individuals, in their capacity as *consumers, entrepreneurs, administrators, technicians, educators, etc.*, to whom multiple and diversified responsibilities may be attributed.

*School-age youngsters* are special because they are capable of conditioning future consumption and production models, which is why they and their *teachers* are privileged partners with whom the Agency System can build up a privileged relationship. Environmental education is an integral part of the school education cycle as well as of the training of "*environmental specialists*" and of those involved in decision-making or management, and represents a strategic choice in *adult education* for sustainability. Environmental education should therefore be considered in terms of life-learning because it is potentially targeted towards all individuals of all ages and is involved at every level of formal, non-formal and informal education.

When involving individuals who have completed their schooling, environmental education should support and complete the updating of skills required in order to operate

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professionally in the various sectors according to the strategic guidelines identified for environmental sustainability at national and European level.

In this context it is of vital importance to favour the launch of educational intervention minimising the restrictive view, still widespread in the technical and scientific fields, whereby each specific sector is considered a reality separate from all the others. This will enable those operating at both technical and management-administrative levels to consider environmental protection as a common denominator for all areas of intervention – rather than a separate sectoral policy – thus improving the integration of environment issues in social and economic policies.

While the complexity of the environmental processes that society is called upon to tackle make the continuous “technical-scientific” updating of those operating in the various fields indispensable, it also demands that an ever wider plurality of actors (consumers, businesses, institutions, associations, etc) share choices, ethical principles and social values.

We must therefore promote educational and informational actions that reinforce the trend towards lifestyles that are well-informed and parsimonious in terms of use and conservation of natural and cultural resources, that induce us to reduce waste - in other words, unjustified and superfluous consumption of materials - and that favour the participation of the whole of society in deciding objectives and commitments and in the sharing of responsibilities that results.

## 4.2 Educational actions and instruments

In the Memorandum on lifelong learning drawn up by the European Community commission in December 2000, the Commission and Member States defined lifelong learning as all purposeful learning activity, on an ongoing basis, aimed at improving the knowledge, skills and competence of all citizens.

The Memorandum uses a number of key messages to confirm that knowledge society represents a constant challenge for change and that lifelong learning is the only means by which both citizens and the community as a whole can attempt to meet this challenge effectively.

This document also states that *empowerment* is the driver for community development aiming at quality, sustainability, and those new duties/rights of citizenship typical of knowledge society and the Knowledge Age.

One of the key messages concerns *innovation of learning and teaching processes and methods*, an issue of great relevance based on the idea that effective renewal of knowledge must be accompanied by a parallel and coherent innovation of the objectives, systems, methods of transmission, diffusion and reproduction of that knowledge.

If proposed as the overall aim of every educational process, the concept of empowerment acquires great innovative relevance, countering the tendency to a re-education-

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al, prescriptive or categorical approach.

A constantly changing society with an increasing tendency to express itself by means of lifelong learning processes for all of its members regardless of age and class requires new pedagogical and didactic tools, new forms and ways of learning that can provide a better response to the growing education demand of individuals and groups at all levels of the community.

The reference framework consists of a more complex pedagogical conception whose main qualifying and characterising features are the following:

- *Centrality of user learning* (key role of educator);
- *Centrality of learning objectives* compared to contents (the contents are part of the strategy not the objective);
- *Relevance of active learning* (hands-on experience, learning by doing);
- *Flexibility of methods* with respect to educational objective;
- *Development of an awareness-building process*, rather than transmission of skills or acquisition of knowledge.

These features are also coherent with the principles laid down in the Fiuggi Charter (1997) which proposes an integrated education system comprising formal education, awareness-raising and training in order to diffuse instruments for the understanding of the complexity of relations between nature and human activities, between existing resources and the dynamics of production, consumption and solidarity.

Environmental education is based upon these premises and has a view to community education, taking place by means of an active and participatory methodology.

As far as the instruments are concerned, another message in the memorandum refers to *bringing learning closer to home*. As well as formally guaranteeing the right to learn and implying the removal of obstacles related to distance and time, this concept also refers to distance learning, or, in other words, ICT-based learning (audiovisual media, the Internet, FaD – the Italian distance learning system).

Identifying educational actions and making coherent choices in their regard are fundamental for the promotion of environmentally responsible and pro-active skills and behaviour among local citizens as well as for sustainable development.

### **4.3 Assessment**

The Memorandum on Lifelong Learning also underlines the importance of *assessing learning results*. This aspect refers to the need – aimed at guaranteeing the real development of lifelong learning – to use innovative effective methods to assess the results of LL. This vital though problematic aspect of the learning/training activity is generally very superficial or even absent.

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Monitoring, auditing and evaluation are therefore key moments in any educational process. Monitoring involves controlling what is happening within the system concerned. Auditing is intended to assess the progress of the system to ensure optimum management of projects planned and the carrying-out of any necessary adjustments while the project is on-going. Evaluation is rather more complex: it assesses the system's ability to respond to community needs for the purposes of reprogramming. "Assess" means making evaluations on the basis of criteria, indicators and standards.

- *Monitoring*: activity that allows the evolution of the phenomena to be checked, while keeping events under control (involves a systematic and organic production of data and information)
- *Auditing*: activity essential to management because it assesses the progress of phenomena (involves the carrying-out of monitoring activities). Auditing is usually carried out by technicians during the implementation phase.
- *Evaluation*: assesses positive and negative results and their causes, useful for the re-planning of projects (rather than for project management purposes); this activity enables us to systematically learn from our experiences in order to improve future projects (involves monitoring and auditing activities). Evaluation is an activity carried out by technicians and policy-makers after the conclusion of the experience.

Regardless of the "subject" involved, all assessments will use the logical scheme below<sup>7</sup>:

- a) The Evaluators
- b) Use values, hypotheses, motivations, objectives, schemes and models
- c) To explore the reality in a selective manner and identify (or define, circumscribe, choose) the areas to be evaluated
- d) As well as identifying - for each of these areas and on the basis of values and hypotheses – criteria and indicators, as well as reference scales and standards
- e) Next they carry out measurements, that is, they use techniques and instruments to collect data and information
- f) And process and analyse this data
- g) Finally, they make an assessment, that is, they list the areas according to a value scale on the basis of the criteria and standards chosen.

All assessment processes are therefore highly subjective processes making it necessary to describe and share the criteria, indicators and standards used.

There is a huge range of different types of assessment: from cost-benefits assessments to cost-effectiveness assessments, from cost-opportunity assessment to process or satisfaction assessment to risk-benefit assessment and so on.

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<sup>7</sup> Extract from the *Piccolo Dizionario della Qualità*, S. Beccastrini, A.Gardini, S.Tonelli - Centro Scientifico Editore, Turin 2001

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It must be underlined that where a social cost is involved, it is necessary to evaluate the resulting benefits, an evaluation that is particularly difficult to carry out.

The Memorandum recognises the need to improve the way in which participation in and the results of learning actions are evaluated, particularly where non-formal and informal learning are concerned. This need is particularly pressing when educational programmes are considered in terms of two strategic aims for the development of individuals and society: the promotion of active citizenship and the promotion of employability.

The failure to carry out assessments makes it impossible to learn from mistakes made, and thus for growth or improvement to take place.

The Agency System is aware of this need but at the same time it recognises the difficulty of fully appraising change in behaviour and attitudes and the growth of empowerment, all of which are by now widely considered to be the essential aims of education for the sustainable development of communities.

The definition of defining criteria and quality indicators – a very topical debate in the world of environmental education, both at national and international level – must of necessity be based on a number of shared basic hypotheses which emerged in the previous pages but which we believe should be underlined.

Environmental education develops and becomes an essential element of the culture of complexity, and is based upon:

- Awareness of limits (resources, our knowledge, the single and separate disciplines);
- The inter-dependency of observer and observed, where an important role is played by communication intended as an active transfer of information;
- An evolved conception of natural and social processes where randomness plays a central role;
- An uncertainty which must waive understanding and action;
- The principle of integration of areas of knowledge;
- “Skills” intended as the ability to integrate, understand limits, relations, but also to evaluate impacts, consequences and risks;
- The model of the network and systemic relations.

In defining guidelines for assessment in environmental education it is necessary to take account of the culture of complexity that characterises the pedagogical and environmental systems and refer to an evaluation that does not limit itself to “measuring” but focuses on emergencies, in order to increase value, not judge, to underline strong points and critical moments of the pathways, programmes and projects with the aim of ensuring continuous improvement, proposing changes that are coherent with the values involved.

As far as the definition of possible theoretical references are concerned, the agency

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system takes on the contours of a “*socio-critical paradigm*”<sup>8</sup> whereby reality is a constantly dynamic and complex reality closely linked to the changes taking place in its “community”. In this context, the assessment becomes an instrument for change, analysing processes as well as results. It is therefore obvious that what is required is an assessment based on explicit declared criteria that are, most important of all, shared by all the actors involved.

The Environmental Agency System intends to develop relations with research that is being carried out into this theme at national level, identifying a minimum set of indicators that can characterise the educative role of the Environmental Protection Agencies in this context and the contribution that they can supply to the broader national integrated education system.

Information produced by means of *synthesis indicators* can be used for various ends and needs:

- a) *Assess qualitative level* of educational-environmental project, overall or with respect to particular variables, ex-ante, on-going or ex-post process;
- b) *Compare the qualitative level* of projects with different levels of environmental education potential, in the context of homogeneous project classes or between different classes;
- c) *Establish minimum thresholds* for the standard qualitative level of complex indices and/or for areas of variables which must be satisfied by the projects for various aims: obtaining sponsorship, participation in allocating funding, participation in specific events, etc.;
- d) *Carry out surveys* into qualitative levels of educational-environmental project planning in the context of homogeneous project classes or between different classes;
- e) *Promote campaigns for the development of qualitative levels* of environmental education planning and of the relative implementation processes.

ISFOL, for example, identified three field indicators to measure the quality and effectiveness of an environmental education project:

- The concreteness and local relevance of the educational action proposed by the project (you can only learn how to change the environment close to home);
- The didactic innovation that the project intends to promote (you can’t change the environment without changing teaching/learning: education for sustainability requires sustainable education);

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<sup>8</sup> \*Michela Mayer . La valutazione nel campo dell’educazione ambientale : il contributo della ricerca ENSI al dibattito internazionale (Report titled “Assessment in the field of environmental education: the contribution of ENSI research to the international debate).

- The movement towards change (active, critical, participatory) that is set off by the educational process (the project must have objectives involving the change - cognitive, operational, and ethical – of the factors involved: teacher, student, context).

We believe it is necessary to identify – within the context of criteria and indicators shared by the overall environmental education system in Italy – the specific valency of the Agency System which should represent the capacity to carry out an integrated reading of the environment and its transformations through the analysis of data based on the areas of technical-scientific competence of the System.

<b>EVALUATION MODEL</b>	
<b>AIMS</b>	<ul style="list-style-type: none"> <li>• Prepare a set of criteria and indicators for the evaluation of actors/functions, projects and products;</li> <li>• Favour self-assessment processes on the part of structures concerning the level of quality attained by educational-environmental project planning and implementation;</li> <li>• Promote the development of the planning and implementation quality of the environmental education action;</li> <li>• Promote the development of culture and evaluational competences aimed at guaranteeing the continuous improvement of environmental education project quality and relative implementation processes;</li> <li>• Favour continuous improvement of organisational and structural conditions of bodies and institutions operating in the sector, with the aim of guaranteeing optimum educational action support instruments;</li> <li>• Carry out ad-hoc surveys on qualitative levels of environmental education projects and of the relative implementation processes;</li> <li>• Select environmental education projects in differing contexts and for different aims (funding, sponsorship, admission to events, etc.).</li> </ul>
<b>PRINCIPLES</b>	<ul style="list-style-type: none"> <li>• Coherence with institutional principles and values inspiring the educational and environmental policies of the community (sustainable development)</li> <li>• Coherence with network model characterising the environmental education scene;</li> <li>• Educational policy choices coherent with the educational and environmental needs of the local communities;</li> <li>• Technological, operational, economic and political feasibility of environmental education projects;</li> <li>• Evaluation as an essential element of environmental education project planning and implementation processes;</li> <li>• Involvement of different actors involved in the evaluation processes;</li> <li>• Self-assessment for the continuous development of environmental education system quality.</li> </ul>
<b>CHARACTERISTICS</b>	<ul style="list-style-type: none"> <li>• Consideration of all fundamental structural and process variables that contribute to determining the quality of environmental education project planning and implementation processes;</li> <li>• Flexibility of model application to different types of project and educational-environmental contexts;</li> <li>• Exportability of assessment model to other regions and at European level (applicative flexibility beyond regional boundaries).</li> </ul>



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## *Quality system*

For the Environmental Protection Agencies the creation of a quality management system for products and services supplied is not only critical but also a priority, also given the relevance of these products and services within development strategies as well as the competitiveness of the markets. The main objective is to ensure that the projects and services supplied are planned, supplied and controlled in compliance with the conditions laid down by the various laws (ISO, ECOLABEL,...) so as to attain the level of quality requested by the institutional context and the reference markets and to ensure that the level of quality is maintained, also as a premise for operating according to a rationale of continuous improvement of performances.

In this context, accreditation of quality or excellence is a self-assessment and evaluation procedure for the structure, the organisation and process, oriented at the continuous incremental improvement of the quality of the service supplied in a non-dichotomic manner but with the aim of benchmarking.

The main aim is to ensure that products and services supplied have been planned, supplied and controlled so as to attain the level of quality requested by the institutional context and by the reference markets and also to guarantee that the level reached is maintained, also as a premise for operating according to a rationale of continuous improvement of performances. [Nota del traduttore: ripete la frase del paragrafo sovrastante]

This means that assessing improvement involves making a comparison with the status attained by similar services or structures (across) as well as comparison with respect to the previous situation of the service or structure in question (over time).

It is precisely because the benchmark is excellence, that this is a second level system (involving authorised accreditation) to which access is voluntary and whose purpose is to assign awards not sanctions. Quality or excellence accreditation is therefore:

- voluntary;
- involves a phase of self-assessment followed by assessment from outside;
- involves an external assessment carried out by peers, professionals in the field;
- uses excellence as a benchmark in the various areas taken into consideration together with user satisfaction;
- cyclic (1/3 years);
- does not apply sanctions;
- starts up a process of continuous improvement.



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## 5. CONCLUSIONS

The document "Guidelines for environmental education in the Agency System" now concludes, providing a testimony to the work carried out by the work group of referents for Communication, Information, Training and Environmental Education of the Agency System in accordance with a mandate received from the "Carta di Padova" (Padua Charter) and the subsequent resolutions passed by the Federal Council.

This document follows the document on "Environmental Education in the Environmental Protection Agency System", also produced by the CIFE group which describes the state of play of the activities promoted by the individual ARPAs/APPAs in this sector representing a conceptual follow-on to it, both in terms of a shared implementation system as well as methods adopted.

These guidelines are intended to create a space for a comparison of methodologies, reciprocal knowledge, fertile dialogue between the Agencies and with the other operators implementing initiatives throughout Italy: between the Agencies, in order to strengthen the educational competence of the agency system; between the other operators, in order to turn this shared competence into a common resource available to all.

In concluding this document, we need to focus on a series of factors that came to our attention during the drawing-up of the guidelines. These themes were a topic of debate that did not draw to a conclusion, and could be defined as issues that are "open" or "still open" in the Agency System promoting environmental education.

1. *The problem of shared standards.* It is important to establish that they cannot be defined as common standards accepted by all the nodes in the agency system, because the conditions leading to the launch of these activities differ - sometimes considerably - and because the aim common to each context is the beginning of a pathway to improvement involving all the specific qualities of the network. A process identifying common definitions of variables could be the object of an experimental study or represent an objective for the system, although during this phase it might be preferable to adopt a pragmatic approach to problems and definitions. The strategies for the improvement of the quality of the network and its products could prove more effective if defined on the basis of real feasibility assumptions and if their identification and implementation is characterised by a widespread and qualified participation process involving the actors concerned.

2. *The question of assessment.* These guidelines describe the essential factors shared by all the Agencies for the environmental education initiatives although they are not exhaustive. The Group also discussed in detail the opportunity of establishing "self-assessment" phases, or indicators of quantity (as experimented during the drawing-up of the Environmental Data Yearbook), quality, or even better still, quality improvement,

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by means of possible actions for comparison and measurement (benchmarking), or simple measurements.

3. *The question of support for decisions.* In order to guarantee the right support for the decision-maker, both at national and agency level, we discussed the importance of “configuring” a framework summarising the capabilities of the system implementing environmental education in Italy in order to identify the technical and scientific specificities (which could lead to the setting-up of something similar to “National Thematic Centres for Environmental Education”). At the present time, this important instrument risks identifying local potential that has yet to be fully expressed in an inhomogeneous manner, penalising advanced realities and diminishing promising project planning capacities.

4. *The question of language.* Another issue that emerged concerned the need for a common language and therefore the need to draw up a specific glossary. Mutual understanding relative to reference concepts revealed itself as an important issue on more than one occasion while working together.

Although many of these aspects were mentioned, they were deliberately not examined in depth.

Rather than lacunae, they represent an outline guiding us towards an open future. The specificity, the complexity, the autonomy and past experiences represent a resource for the single Agencies promoting and diffusing environmental culture. These characteristics represent the degrees of freedom – within a coordinated national system – favouring the expression of a creativity untrammelled by eventual “technical” limitations. This guarantees the necessary flexibility to admit issues considered strategic by the decision-maker (there is such an impelling need to do things and do them well that a rigid homogenisation of the activities takes second place), and also leaves room for the possibility of investigating these issues in greater depth and using a common approach at some time in the future.

The guidelines therefore represent a framework and focus on aspects considered essential in the difficult task of promoting environmental education.

For the Agency System the CIFE Group remains a benchmark capable of making the contribution necessary for the future implementation of other joint activities in the areas above, related to the quality and development of indicators, the glossary, and analysis of needs and educational actions.

With this precise commitment and the evaluations expressed above, we hope that that these guidelines will provide a stable reference for those operating in the field of environmental education for the diffusion of the environmental culture.

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## ANNEXES



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## TECHNICAL SEMINAR OF THE WORKING GROUP OF ENVIRONMENTAL EDUCATION REFERENTS UNANIMOUSLY APPROVED FINAL DOCUMENT

During the meeting held on 19 February 2005 the "Consiglio Nazionale delle Agenzie" (National Council of Agencies) asked the Working Group of Environmental Education referents to provide an up-to-date study on the state of play of the Environmental Education sector and then to draw up operational proposals.

During the course of the Technical Seminar of Environmental Education held in Padua on 19 March 2002, the ANPA/ARPA/APPA system work group drew up this document for the attention of the next National Council of Agencies so that it can take note of it and adopt the appropriate decisions.

The Working Group – as described during the 5<sup>th</sup> Bologna Agency Conference – underlines that – regardless of the specific competences assigned to the Agencies by their respective constitutive regulations – communication, information, capacity building and environmental education are the strategic instruments of the Agency System for the purposes of fully carrying out prevention and environmental protection functions according to a rationale of sustainable development.

### **1. Competences of APAT relative to environmental education**

In the light of past experiences and existing relations between ANPA and the Regional and Provincial Agencies and with the Ministry of the Environment, it is to be hoped that the National Council will provide the necessary support for the functions of APAT relative to education, information and environmental education in view of the competences assigned to APAT concerning data management, coordination of CTNs (National Thematic Centres) and dissemination of information.

### **2. Inter-agency coordination**

In order to increase and improve educational actions it is important to strengthen the action of the Working Group of Environmental Education Referents through the formalisation of an inter-agency coordination on environmental education, identifying APAT or another Agency in the system as the body delegated to manage coordination.

### **3. Strategic Plan**

It is necessary for the National Council to adopt a shared document supplying the methodological framework, strategic references and priority objectives of the Agency System for the planning of information, training and environmental education actions. This document could be drawn up on the basis of past experiences, like, for example, "la Carta di Fiesole" (Fiesole Charter) drawn up by the Working Group in June 2001.

### **4. INFEA System**

It is also necessary that, as part of the joint action involving the Ministry of the Envi-

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ronment, the National Council of Agencies delegates existing or planned ANPAs to support the institutional presence of the Agency System at the INFEA Technical Round Table.

For the purposes of implementation of the INFEA programme it is also of fundamental importance for the single Agencies to promote and create synergies and agreements with their respective Regions for the definition of strategies, roles and implementers of regional environmental education programmes provided for in the agreement drawn up during the Conferenza permanente Stato-Regioni (Permanent Conference between State and Regions).

### **5. Operational proposals**

*The Working Group identified the following actions, subject to the adoption of the previous proposals, concerning the operational sphere:*

- **Drawing-up of guidelines** for the definition of:
  - Shared educational methodologies for the various intervention sectors;
  - Quality standards for information, training and environmental education services and initiatives proposed by the agency system, also with the aim of setting up accreditation procedures enabling the Environmental Agency System to operate with a methodology widely used throughout the European community and which could be provided for under national and regional regulations;
  - Identification of criteria and methods for assessment of environmental education initiatives.
- **Implementation of training initiatives** for the pursuit of the growth of shared professionalism among the members of the Working Group on environmental education issues. The initiatives, planned on the basis of past experiences, will be presented to the National Agencies Council.
- **Updating of “Document on state of play of environmental education in the Agency System”** highlighting past experiences that can be considered a shared heritage;
- **Coordination by the Working Group** of communication, training and environmental education initiatives emerging within the various thematic work groups of the Agency System.

*Given the complexity and vast scope of the themes in question, after this document has been officially recorded and the provisions contained have been implemented, the Working Group will examine in detail and develop the single issues also by means of specific sub-groups.*

Padua 19 March 2002



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**DRAFT**

**SYSTEM OF ENVIRONMENTAL PROTECTION AGENCIES**

**INTER-AGENCY WORKING GROUP  
ENVIRONMENTAL COMMUNICATION, INFORMATION, CAPACITY BUILDING  
AND EDUCATION  
(C.I.F.E.)**

**STRATEGIC PLAN**

**FOR ENVIRONMENTAL COMMUNICATION, INFORMATION, CAPACITY BUILDING  
AND EDUCATION INITIATIVES**

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## Premise

Among the various proposals put forward by the 'Documento di Padova' (Padua Document), drawn up by the Working Group of Environmental Education Referents during the National Seminar of March 2002 and approved by the National Council of Environmental Agencies in July of that same year, is one relative to the drawing-up of a Strategic Plan in consideration of the fact that *"It is necessary for the National Council to adopt a shared document supplying the methodological framework, strategic references and priority objectives of the Agency System for the planning of information, training and environmental education actions. This document could be drawn up on the basis of past experiences, like, for example, "la Carta di Fiesole" (Fiesole Charter) drawn up by the Working Group in June 2001"*.

This task presents itself again today and is reinforced, by the formal institution of the C.I.F.E. (Environmental Communication, Information, Capacity Building, Education) working group formed by Referents from APAT and from the twenty-one Regional and Provincial Agencies, and, with the launch, within the group, of an initial phase of encounters and joint initiatives.

The extremely complex nature of this area – both in terms of its objectives and contents, constantly on the increase both at international and national level, as well as in terms of the actors involved – makes it more important than ever for the Agency System, whose aim it is to make a valid contribution in qualitative terms, to clarify its own identity, specific role and define its scope (not to limit but in order to broaden its range of action).

This evaluation should be made bearing in mind various coordinates including: strategic institutional indications on environmental education and on the priority environmental issues to be tackled; the network of actors operating in various capacities in this field; the specific competences allocated to the Agencies, both singly and as a system; the real information and educational needs of citizens who are the target of these actions.

The regular opinion polls promoted by the EU Environment DG to investigate the way citizens of Member States perceive environmental issues reveal that a widespread awareness and anxiety about the problems of our planet do not always correspond to correct information and knowledge of the problems in question, nor to knowledge of the solutions offered by science, laws and individual and collective behaviour.

On the other hand, one of the primary institutional tasks of the agency system is to enhance its cognitive resources on the environment and – as the "Fiesole Charter" underlined – to orientate them towards the production of information that is accessible, usable and coherent with the informational needs of citizens as well as functional in terms of educational actions. In other words, information that is capable of inspiring active participation of actors and modifying individual behaviour and institutional choices, with a view to sustainability.

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The list on the next page summarises a number of indications that emerged during the first general discussion on the theme within the Group, which, although partial and fragmentary, could provide a basis for further work.

### **1. The technical and scientific approach to environmental issues**

There is widespread consensus that planning of coordinated environmental education initiatives and activities should be based on the awareness of the specific scientific and technical “vocation” of the agency system delegated to collect, process, manage and disseminate environmental data, combining purely informational functions with educational/awareness raising functions whose aim is to make such data comprehensible to and assimilable by citizens.

This approach receives further support from the inclusion of communication, information, training and environmental education activities in the Environmental Data Yearbook published by APAT (from 2000 onwards). This presupposes and increases the scientific component of the above-mentioned intervention sectors which, according to the DPSIR model, represent some of the possible institutional responses to environmental problems which will make increasing reference to strict implementation and verification criteria.

### **2. The multi-referential nature of the system**

The agency system, as underlined in the Report presented at the National Conference of Agencies held in Bologna does not intend to be a self-referential monad, but a “*network among networks*” together with the other actors carrying out educational actions in the environmental sector. First and foremost among the latter is the INFEA (Information, Training, Environmental education) system with its numerous centres (Laboratories, Experience Centres, Coordination Centres, etc). Furthermore, in many Regions contacts and relations of cooperation have been established with other bodies, including those belonging to the Education System (Local Education Offices, IRRE – Regional Educational Research Institutes - etc.), or with environmental associations and NGOs.

### **3. The perspective of sustainability**

Since Rio and the Agenda 21 the guiding principle of all environmental education initiatives has been sustainability. In addition to carrying out technical activities like environmental controls the majority of Environmental Protection Agencies have oriented their educational activities towards sustainability targeting the various groups of citizens and focussing in particular on urban sustainability (Local Agenda 21, sustainable mobility, waste, etc.) and on the sustainable use of resources (natural areas and biodiversity, water and air quality, etc.).

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#### **4. Environment and Health**

The "Environment and health" theme, one which has acquired increasing importance in recent years, is one of the priority issues listed in the "Fifth European Environmental Action Programme". Some Agencies have already gained some experience in this field by means of various projects. This experience could be widened and developed at inter-agency level in order to launch concerted initiatives with health structures.

#### **5. Instruments**

The enhancement of these aspects characterising the agency system also takes place through the definition of a range of instruments which can be subjected to fine-tuning. Examples of such instruments are:

- The definition of educational pathways targeted at the referents of the system itself, in line with past actions and with the needs as they arise;
- The drawing-up of guidelines for the definition of shared educational methodologies, of quality standards for information, training and environmental education services and initiatives proposed by the agency system, of criteria and methods for the assessment of environmental education projects.
- The definition and development of environmental education pathways on various issues to be developed using F.A.D. (Italian distance learning system) in the context of initiatives at both national and international level;
- The creation of monographs on various environmental themes;
- The creation of a Work Group web site.

#### **2003 Activities**

##### **Information**

- Collection and processing of 2002 data relative to C.I.F.E. activities for the drawing up of the chapter on "Information, Training and Education" in the AP-AT 2003 Environmental Data Yearbook.

##### **Training**

- GIS (Geographic Information Systems) training course
- Analysis of feasibility study for a distance environmental training project (FAD) for the agency system

##### **Education**

- Drawing-up of a report on environmental education activities titled "Environmental education in the environmental protection agencies" with the contribution of the twenty-one regional and provincial agencies and of APAT.

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## **2004 Activities**

Contributions of Working Group for preparation and organisation of sessions C (sub-sessions C1 – C2 – C3) and F of the 8<sup>th</sup> National Conference of Genoa 2004.

### **Communication**

- Survey into representation of environmental institutions among citizens (optional participation by ARPAs/APPAs)

### **Information**

- Identification of parameters and indicators for assessment and monitoring of the C.I.F.E. activities of the agency system – 2004 Yearbook (Subgroup A)

### **Training**

- “Piccoli Comuni” (Small Municipalities) project for dissemination of information on state of environment at local level.
- Training courses on “Ripristino ambientale di aree protette” (Environmental regeneration of protected areas) and on “Geostatistica” (Geostatistics).
- Preliminary evaluation of various environmental training activities to be developed at a later stage in relation to the creation of a meta-catalogue in English and Italian on the activities promoted by the various Agencies.
- Launch of a process for the analysis of the agency system’s training needs with the development of distance environmental training systems and a register of the agency system trainers.

### **Education**

- Drawing-up of guidelines for the environmental education initiatives of the Agency System (Subgroup B)
- Planning of environmental education initiatives for the promotion of the Flepy educational kit (nursery schools, 1<sup>st</sup> and 2<sup>nd</sup> year primary schools)
- Participation in the “School Flower Day” initiative of the Life Project “European Flower Week” for the promotion of the Ecolabel, the Community ecological quality trademark, (primary schools)

### **Future activities (to be defined):**

- Creation of a C.I.F.E. Group web page on the APAT portal;
- Creation of a “meta-catalogue” on the environmental training activities of the agency system;
- Planning and realisation of a course on themes related to education for sus-

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tainable development targeted at the agency system and external operators  
– Development of instruments for the quality of environmental education services and initiatives.