



INSTRUMENTS FOR ENVIRONMENTAL KNOWLEDGE AND AWARENESS AND INTERFACE WITH THE MARKET

**Dissemination of environmental information
Environmental Education and Training Programmes
Instruments for improving environmental services**



Instruments available to society for the formulation of a strategy of response to the environmental problems that it is called on to address.

The definition and objectives of environmental education have changed over time.

In 1970 the International Nature Conservation Union established the first definition of environmental education understood as education in the defence and conservation of nature.

Introduction

This chapter is meant to present an overview – concise and definitely not exhaustive – of the different cognitive instruments that can be utilised to ensure that the various components of society are able to obtain more in-depth knowledge regarding an ever increasing number of environmental matrixes and factors, with a view to raising the general level of knowledge regarding environmental issues, making it easier to adopt life styles that prove eco-compatible.

According to the DPSIR model, an effective action of response, as indicated in numerous documents on both the national and international levels, consists of “environmental education”, meaning a form of activity not limited to school but extending into adulthood, through continuing education and professional training.

The definition and objectives of environmental education have changed over time. In the broader sense of the term, environmental education can be defined as a tool for inducing citizens to take responsibility for, and to modify, their environmental behaviour.

As is the case with other spheres of individual civic training, environmental education, together with its distinguishing characteristics and objectives, must be viewed within its specific context: it has evolved in response to changes in both global and local scenarios, as well as the uprooting of environmental givens, often characterised by full-fledged emergencies, that has occurred throughout the Planet, and especially in recent decades. A process of growth has therefore proven necessary in terms of heightened awareness and responsibility regarding the anthropic component influencing large-scale changes.

Environmental education first takes the form of the defence and conservation of nature (1970 – Conference of the International Nature Conservation Union). Then, during the 70’s, its scope expands to include anthropic activities, the causal relationship between health and the quality of the environment and technological progress: the environment consists not only of the natural environment, but also the constructed and social environments. During this period, ongoing advances in scientific research create



a situation in which information and training are the main objectives of environmental education. *“Using the discoveries of science and technology, education must take a leading role in establishing a clear-cut awareness and an improved comprehension of environmental issues. It must give rise to positive forms of behaviour towards the environment and the use of the nation’s resources.”*¹

During the 80’s, environmental education, dominated by the underlying concept that correct information can lead individuals to make a significant change in the way they approach the environment, becomes a major area of activity in quantitative terms. However attention is focussed on the individual disciplines, with many European countries tending to confine the scope of environmental education to biology-related disciplines.

The Earth Summit held in Rio de Janeiro in 1992, and the Global Forum of NGOs that took place at the same time, undoubtedly mark a moment in which the gravity of the environmental problem gains widespread awareness. The Summit’s primary agreement, known as “Agenda 21”, proposes a strategy of global action to guide policies worldwide. The document makes unequivocal reference to the right of citizens to receive ongoing environmental information and education.

The treaty approved by the Global Forum on Environmental Education for a Sustainable Society and Global Responsibility upholds “the central role of education in cultivating social values and actions”, in addition to reiterating the need for formation of an active citizenship capable of understanding the complexity of relations between nature and human activities. There is an increasing awareness that knowledge of risks alone will not result in the modification of forms of behaviour and policies, and that the most widespread model of knowledge – one that reflects a mechanistic vision of the world, holding that man is able to control the effects of his actions and dominate nature – falls short when it comes to understanding the complexity of the man-nature relationship, as well as the entire system of existing relations.

In September 2005, UNESCO approved the International Imple-

¹ 1977 – The Tbilisi Declaration of UNESCO.



At present, the primary objective of environmental education is the process of maturation through which all citizens gain a new awareness that translates into a capacity to modify forms of environmental behaviour.

The key tasks of environmental authorities include reporting activities.

mentation Scheme for the UN Decade of Education for Sustainable Development (2005-2014), indicating the priority implementation strategies on the basis of the four major thrusts of education for sustainable development:

- improving access to quality basic education;
- reorienting existing education programmes;
- developing public understanding and awareness;
- providing training.

At present, as the European Union has repeatedly stated in acts and documents, the primary objective is not simply a transfer of knowledge, but the start-up of a process of maturation in which all citizens gain a new awareness that translates into a capacity to modify forms of environmental behaviour and to contribute to the identification of adequate solutions for specific environmental problems. The learning experience is no longer one that begins and ends during one's school years, but that extends into adult life as ongoing education, continuous learning, training and updating of professional know-how. *"For this reason, a strong alliance is needed between all the subjects responsible for education, in its broadest meaning as a lifelong learning process involving schools, universities, institutions, vocational training centres, businesses, associations, as well as the media, art and culture, leisure and recreational activities. A systemic synergy must be developed between all the stakeholders that - directly or indirectly - determine the skills, values and models of cultural behaviour of both individuals and communities"*².

The tools selected for presentation in this chapter include reporting activities and their products, telematic equipment for accessing environmental data/information, library services and environmental training in the strict sense of the term, plus initiatives which, through the enactment of the European EMAS and Ecolabel regulations, aim to reconcile environmental improvement with the demands of the competitive market.

The key tasks of environmental authorities include reporting activities, meaning the systematic collection and publication of data

² UNESCO Italian National Commission – Rome, Palazzo Firenze, November 2007.



on the environment, accomplished primarily through a system of information and monitoring . In Italy the Ministry of the Environment, Land and Sea, the regional governments, the ISPRA and local environmental protection agencies are responsible for such activities. The web, a powerful global instrument for the dissemination of information, has proven to be an essential tool in providing increasingly widespread environmental information. Its flexible, dynamic nature is particularly well suited to the transmission to a vast and varied public of documents that sometimes prove voluminous, in terms of contents or complexity of images, as in the case of environmental reports.

Services offered by the network of libraries and documentation centres specialised in environmental topics supply a valid alternative to the more technological instruments, when it comes to distributing environmental information through traditional channels, providing, among other services, access to past data that would otherwise be impossible to consult. The ISPRA library, as well as many other libraries of the Network co-ordinated by the Institute, handle this important sector of the environmental information distribution. As regards educational activities and environmental training in the strict sense of the term, significant efforts have been made by the Agencies System, which has grown constantly in recent years. Last but not least, sustainable production and consumption are further expressions of an environmental culture with widespread roots in civil society. The EMAS and Ecolabel regulations of the European Community are voluntary instruments that make possible the reconciliation of environmental improvement with the demands of the competitive market.

The topics briefly addressed herein are meant to provide a rough but meaningful indication of the different types of instruments available, as well as the different segments of society that can be involved.

Dissemination of environmental information

The progressive recognisance of the citizen's right to receive information, to participate in decision-making and to obtain justice on environmental questions, a right based on the principles of the Aarhus Convention, is sanctioned by several European Community measures (Directive 2003/4/EC "on public access to envi-

The Network of libraries and documentation centres specialised in environmental topics, co-ordinated by the ISPRA, provides access to past environmental data otherwise unavailable for consultation.

Systematic data collection and processing activities related to the various environmental issues have led to an ever-increasing



comprehension of environmental questions, encouraging citizens to develop informed modes of behaviour, in order to contribute to increasing the general public's environmental culture.

ronmental information”, Directive 2003/35/EC “on public participation in the formulation of plans and programmes regarding the environment”, Regulation (EC) No. 1367/2006 “application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and the Possibility of taking Legal Action on Environmental Questions”) and by national legislation (Legislative Decree No. 195 of 19 August 2005). A key activity, when it comes to facilitating the exercise of this right, is the dissemination of environmental information.

The growing attention being paid by the citizens to environmental matters has helped to create a significant demand for information, further stimulated by the media on the occasion of environmental emergencies. Also demanding information are policy-makers, in order to reach decisions on environmental issues.

The Agency System’s development of reporting activities and use of traditional communication tools (publications, conferences, etc.), together with the promotion of initiatives supported by the mass media (press, radio, television) have made it possible to meet this demand for knowledge in an increasingly appropriate, effective manner.

Over the years, the local Agencies have consolidated relations with their surrounding territories through activities involving the control and monitoring, study and analysis, of environmental issues tied to specific local situations, for the purpose of drawing on knowledge of the latter in implementing environmental prevention and protection policies.

In conclusion, systematic data collection and processing on the environment issues – with the significant contribution, in the last decade, of the Agency System - have led to an ever-increasing comprehension of environmental issues, encouraging citizens to develop environmentally aware forms of conduct, so as to promote the spread of environmental culture among the general public.



Environmental information through reports and the mass media

The designation by legislators of a specific technical-scientific structure, the ISPRA, to manage environmental information is definitely one of the factors that has enabled Italy not only to reach the level of many European countries, but also to accelerate the formulation of environmental policies long held back by a noteworthy knowledge gap that hampered effective planning and control of interventions, diminishing the results of participation in extra-national conferences and activities.

Information management is a key precondition to suitable performance of the crucial function of environmental reporting, in the broadest sense of the term.

In the case of our country, reporting activities can be classified into three main groups:

- those aimed at meeting specific obligations to communicate data, in order to fulfil Italy's commitments under extra-national agreements and European Community directives (reporting duties), as is the case of the Kyoto Protocol or the European Air Quality Directives;
- those meant to promote the dissemination of data on the state of the environment, through reports on multiple sectors and individual topics, such as the Annual Report on Environmental Data, the Report on Urban Environment Quality, the Waste Report, Climate in Italy;
- those aimed at promoting the all-encompassing, harmonised production of environmental information, as well as its subsequent dissemination.

As regards “reporting obligations”, it should be remarked that, starting from the 90's, the number of treaties and conventions on a global level has grown constantly, due to increasing awareness of the fact that concrete objectives in terms of environment protection – an issue that, by its very nature, extends beyond boundaries - can only be achieved through a joint effort of the global community.

As a result, efforts have multiplied to monitor compliance by individual states with the commitments they undertook by signing agreements, and therefore with obligations to commu-

Italian legislators have designated the ISPRA to manage environmental information.



Proper information provides the foundation for effective environmental policies.

Given that so many bodies, at different levels of jurisdiction, are required to present environmental data and information, procedures of dissemination should be standardised and harmonised. The ISPRA prepares manuals and guidelines for environmental reporting.

nicate the data required for compliance control. In Italy, ISPRA is one of the main subjects responsible for data collection and reporting activities.

The dissemination of environmental information is one of the ISPRA's main functions. Proper environmental information is of key importance in undertaking and optimising effective policies and initiatives.

The aim is both to provide the competent authorities with the objective information needed to formulate and implement wise and fruitful environmental policies and to help heighten the level of knowledge and awareness among the citizens, with a view towards promoting increasingly responsible participation in environmental prevention and rehabilitation programmes.

Finally, due consideration must be given to the standardisation and harmonisation of procedures for the dissemination of environmental information, a subject on which the ISPRA prepares manuals and guidelines. The large number of bodies required, at various levels of jurisdiction, to present environmental data and information can lead to confusion in interpretation, or even to disinformation, when the environmental conditions of different geographic and socio-economic contexts are compared without adhering to any common rule for the dissemination of such information.

For a number of years now, the ISPRA, through publication of its Environmental Data Yearbook, has made known the results of the monitoring products of the Agency System, meaning reports on the state of the environment/yearbooks, manuals/guidelines, thematic reports and proceedings of technical-scientific events (conventions, seminars, study days etc.).

In 2007 (Figure 11.1), the most widely used reporting product of the Environmental Agency System was the "thematic report", roughly a hundred of which have been published in total. These reports focus on a particularly critical environmental issue and/or are meant to convey the results of a study or project.

The individual local Agencies tend to give preference to the "thematic report" in their policies for the dissemination of environmental data/information.

It is also a valid instrument for presenting activities performed



by the Agencies within their territories to increment knowledge. In the case of the combined “yearbook/report” type of product, roughly ten are published in any given year, while the number of “manuals/guidelines” and “proceedings of conference” published each year has consistently been in the dozens.

Table 11.1: Environmental information through reports and publications 2007³

| Agency System | Environmental Data Yearsbooks | State of the Environment Reports | Manuals and guidelines | Thematic Reports | Conference proceedings |
|-----------------------|-------------------------------|----------------------------------|------------------------|------------------|------------------------|
| | n. | | | | |
| Piedmont | 1 | 1 | 0 | 15 | 6 |
| Aosta Valley | 0 | 0 | 0 | 3 | 11 |
| Lombardy | 2 | 1 | - | - | 2 |
| <i>Bolzano</i> | 1 | 1 | 2 | 4 | 3 |
| <i>Trento</i> | 1 | 0 | 4 | 0 | 2 |
| Veneto | 1 | 3 | 6 | 5 | 0 |
| Friuli Venezia Giulia | 1 | 0 | 0 | 5 | 0 |
| Liguria | 0 | 1 | 1 | 0 | 2 |
| Emilia Romagna | 1 | 0 | 0 | 0 | 2 |
| Tuscany | 0 | 1 | 2 | 2 | 0 |
| Umbria | 1 | 0 | 1 | 1 | 1 |
| Marche | 1 | 1 | 5 | 22 | 4 |
| Lazio | 0 | 1 | 0 | 2 | 0 |
| Abruzzo | 0 | 0 | 0 | 0 | 0 |
| Molise | 0 | 0 | 0 | 0 | 0 |
| Campania | 0 | 0 | 0 | 2 | 0 |
| Apulia | 0 | 1 | 1 | 0 | 0 |
| Basilicata | 1 | 0 | 0 | 1 | 1 |
| Calabria | 0 | 1 | 0 | 0 | 1 |
| Sicily | 1 | 0 | 2 | 1 | 3 ^a |
| Sardinia | 0 | 0 | 0 | 0 | 2 |
| ISPRA, former APAT | 1 | 0 | 0 | 24 ^a | 3 |
| ISPRA, former INFS | 0 | 0 | 5 | 1 | 0 |

^a Including publications also available in electronic format and on CD

In 2007, the “thematic report” was once again the reporting product most widely used by the Environmental Agency System, with a total of nearly one hundred publications.

³ Source: ARPA/APPA data processed by ISPRA



Mass media play a key role in defining how environmental issues are perceived by society.

Mass media play a key role in defining how environmental issues are perceived by society, influencing processes of understanding. The printed press and television are seen by the citizens as the main sources of environmental information.

Law 150/2000, “Regulations Governing the Information and Communication Activities of Government Bodies”, has led to several initiatives aimed at enhancing communications in all public structures, resulting in major efforts to facilitate more direct relations between the Public Administration and citizens with regard to environmental issues as well.

Positive effects of the enactment of the law include, within government, a significant increase in the number of press offices and structures responsible for communications, as well as the presence of increasingly qualified personnel assigned to external relations.

Nevertheless, citizens have not yet reached the elevated level of environmental awareness that is indispensable, if they are to undertake initiatives favouring their right to receive information: a level that would enable them to play an active role.

In the “*White Paper on European Communication Policy*”, of 2006⁴ the EC highlighted the key role of the media in any European communication policy, while underlining that media coverage of European issues remains limited and fragmented.

According to the “*White Paper*”, the main actions to be carried out for further development of information include, besides taking advantage of the potential of new technologies, improving communication on the national, regional and local levels, thus making available to European citizens a steady flow of shared information. In conclusion, as regards the spread of information on European issues, the media are key players in the formulation of a communications strategy aimed at promoting *active European citizenship* while developing a *European public sphere*⁵.

In 2007, the presence of the local Agencies in the printed press and on TV and radio networks (Figure 11.2) generally confirmed the levels of the previous year, though it should be remembered that this presence is influenced to a significant extent by the envi-

⁴ COM (2006) 35.

⁵ COM (2006) 568.



ronmental events that occur during the year in question. As for the ISPRA, it has further consolidated its position in the printed press and on radio and television. An upward trend has also been registered in the number of articles published in daily newspapers and periodicals (280, including articles in the periodical "IdeAmbiente") and the number of appearances in the press (1,182, including press releases). The increase over 2006 can be traced to the "National Conference on Climate Change - 2007", in which ISPRA was significantly involved.

Table 11.2: Activities carried out through the mass media (press, radio and television networks) (2007)⁶

| Agency System | Press release | Articles in newspapers and periodicals | Press Conferences | Presences in the press | Presences in radio stations | Presences in tv stations |
|-----------------------|---------------|--|-------------------|------------------------|-----------------------------|--------------------------|
| | n. | | | | | |
| Piedmont | 22 | 7 | 6 | 1,660 | 143 | 92 |
| Aosta Valley | 1 | 5 | 5 | 15 | 1 | 5 |
| Lombardy | 45 | 20 | 2 | 1,400 | 50 | 110 |
| Bolzano | 85 | 128 | 25 | 400 | 700 | 200 |
| Trento | 25 | 1 | 0 | 120 | - | - |
| Veneto | 50 | 50 | 10 | 1,200 ^b | 20 | 30 |
| Friuli Venezia Giulia | 80 | 13 | 9 | 510 | 1,570 | 440 |
| Liguria | 13 | 5 | 4 | 365 | 180 | 150 |
| Emilia Romagna | 35 | 100 | 10 | 800 | 150 | 50 |
| Tuscany | 21 | 5 | 7 | 1,600 | - | - |
| Umbria | 30 | 15 | 4 | 861 | 15 | 80 |
| Marche | 81 | 70 | 4 | 70 | 35 | 16 |
| Lazio | 10 | 0 | 3 | 1,607 | 6 | 10 |
| Abruzzo | 15 | 40 | 3 | 80 | 0 | 6 |
| Molise | 25 | 25 | 5 | 140 | 25 | 25 |
| Campania | 15 | 28 | 2 | 61 ^a | 32 ^b | |
| Apulia | 20 | 23 | 3 | 426 | 40 | 93 |
| Basilicata | 31 | 31 | 1 | 250 | 10 | 10 |
| Calabria | 55 | 313 | 0 | 1,527 | 28 | 42 |
| Sicily | 2 | 3 | 2 | 180 | 4 | - |
| Sardinia | 0 | 0 | 0 | - | 1 | 1 |
| ISPRA, former APAT | 92 | 280 ^c | 37 | 1,182 ^d | 50 | 100 |

^a - Estimated data

^b - Global estimated data for radio and TV stations

^c - Including articles from "IdeAmbiente" (periodical published by ISPRA)

^d - Including media releases

In 2007, as in 2006, mentions of the local Agencies in the printed press and on radio and TV have numbered in the tens of thousands.

⁶ Source: ARPA/APPA data processed by ISPRA

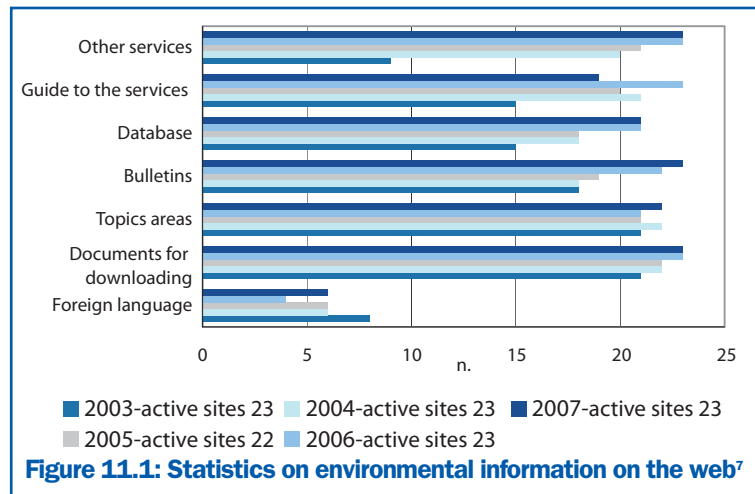


Environmental information and communications on the web

The importance of Internet as an instrument for disseminating environmental information is constantly rising, due to its flexibility and dynamism. It also provides a way of overcoming the constraints faced when printing and distributing documents on paper. Its relevance is further demonstrated by the increasing quantity of information provided on the state of the environment and by the possibility of dialoguing with users.

An analysis of the data shows that the supply of environmental information provided by the agencies over their websites has remained steady. As can be seen in Figure 11.1, there was growth in several services, such as periodical bulletins and databases. The latter have increased from 15 in 2003 to 21 in 2007, confirming the growing importance of databases as tools for providing environmental information both to the general public and the technical-scientific sectors.

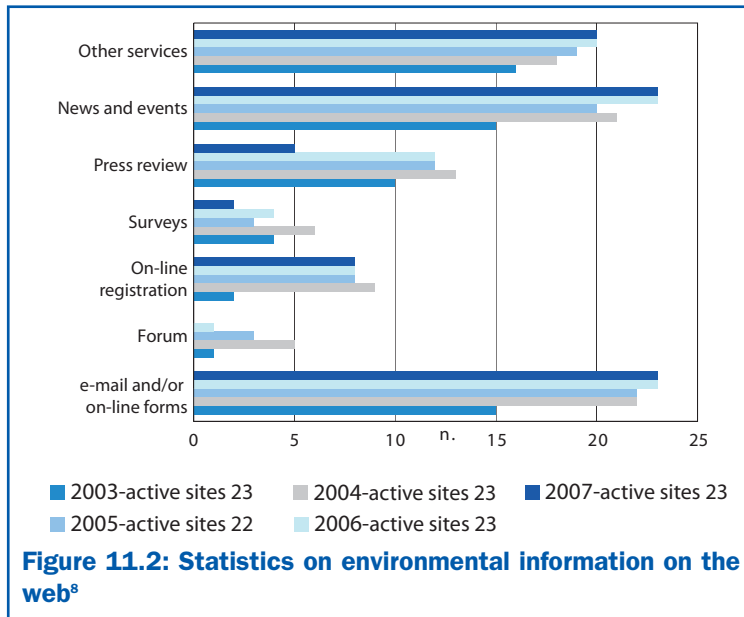
The supply of environmental data on the websites of the ISPRA and the ARPA/APPA has been constant over time, with increases in bulletins, databases and general services.



⁷ Source: ISPRA



As regards interactive communication services available to users, an analysis performed within the Agency System shows that the levels reached last year have been maintained. Of particular note, as illustrated by Figure 11.2, was the attention paid to maintaining direct relations between users and pertinent offices through e-mail news releases or events relevant to environmental issues, as well as on-line registration forms for participation in events, seminars or conferences. On the other hand, the use of direct communication instruments, such as forums and surveys, has decreased over the years, probably as a result of a lack of adequate technology and properly trained personnel.



The Agency System's readiness to establish direct relations with users has increased. The preferred tools are: electronic mail, news and involvement in national and local events.

⁸ Source: ISPRA



The Italian UNESCO Commission has organised three editions of the annual “National Week for Education in Sustainable Development”, devoted to Energy, Climate Changes and Waste.

Library Services and Resources for Users

As for the information services and resources available to users in libraries and/or documentation centres specialised on the Agency System environmental topics, data analysis continues to show uneven distribution of services and less than uniform levels of operating effectiveness within the national territory. The overall trend is unchanged, with certain local situations even having worsened. Many agencies were found to seem to have no library at all or do not provide any documentation service (in Piedmont, Aosta Valley, Bolzano, Trento, Umbria, Abruzzo, Basilicata, Calabria and Sicily). In other cases, the situation is essentially the same as in the previous year, although some increases in acquisitions have been registered. The former ICRAM, INFS and former APAT libraries are now part of the ISPRA network.

Environmental Education and Training Programmes

As has been noted in both international and national documents, environmental education constitutes an experience that does not begin and end in school, but extends into adulthood, in the fields of continuing education and professional training.

In Italy the supply of environmental education initiatives and training courses, both face-to-face and remote, is particularly extensive. It is provided by various subjects - both institutional and non-institutional - including the Agency System, in accordance with the principle of co-operation and integration that underlies the previously mentioned “Decade of Education for Sustainable Development” proclaimed by the UN for the period 2005-2014. The Italian National UNESCO Commission is the national co-ordinating body responsible for facilitating and overseeing the implementation of the Decade, with the support of a National Committee whose members include numerous entities – both institutional and non-institutional – involved not only with the environment, but also with various aspects of sustainable development (the Ministry of the Environment, Land and Sea, the Ministry of University Affairs and Research, the ISPRA and the 21 ARPA/APPA, the regional scholastic offices and other agencies, networks and associations). Every year the UNESCO Commission organises a National Week of Education for Sustainable Devel-



opment, granting the “DESS” logo (for “Decade of Education for Sustainable Development”) to all those initiatives that contribute to achieving the objectives of the Decade.

Since 2006, the year in which the National Committee began its activities, following the signing of the “Joint Commitment of Individuals and Organisations to the Decade of Education for Sustainable Development”, which sets the priorities and guidelines for the Italian campaign, three editions of the DESS National Week have been held on the following topics:

- Energy (2006);
- Climate Change (2007);
- Waste (2008).

Environmental Education and Training offerings

In recent years, both the Agency System and its member organisations have promoted a number of different initiatives meant to raise awareness and provide education on environmental sustainability. In May 2008, the Federal Council approved the “Potenza Charter”, creating the Inter-Agency Workgroup for Education towards Sustainability (SOE), which takes the place of the CIFE Group, continuing its activities in even closer accord with the underlying principles of the decade. The SOE Workgroup is specifically meant to promote reflection on issues relating to education towards sustainability, from both an epistemological and methodological point of view, broadening the points of contact and exchange with other subjects of the educational system, on both the national and local levels, and with the INFEA System in particular, as well as with local bodies and universities, in order to help to create a national network that provides education towards sustainability in an increasingly effective manner that truly has an influence on society. In determining the Yearbook indicators, the environmental education initiatives promoted by the Agency System have been grouped in two categories: environmental education projects and specific activities for heightening awareness and disseminating environmental information and education, with the term “projects” referring to integrated initiatives that extend over time, while “specific activities” are the other, individual educational initiatives promoted by the Agencies at the



Training initiatives allow technicians active in different environmental spheres to share their methodologies and instruments of application.

request of scholastic institutes or on the occasion of events regarding the topics in question.

A total of 489 environmental education initiatives were recorded for 2007 by the Agency System, of which 290 were projects and 199 were individual activities designed to heighten awareness and provide environmental information and education. Of the projects, 36 (12%) were multi-year initiatives and 133 (46%) were developed as co-planning efforts, in co-operation with other entities and subjects. In terms of the target, 238 (49% of the total number of educational initiatives – specific projects and activities) regarded schools, while 257 (52%) were aimed at the adult population, showing a very positive trend, in keeping with the principle of “life long learning”, meaning learning that extends through every phase of life, by means of different methods and procedures. The final objective is always the exercise of active, responsible citizenship, a yearning felt with increasing intensity and rendered especially possible in situations participatory territorial planning.

The topic most frequently addressed is the sustainable use of natural resources (air, water, soil), followed by lifestyles, including sustainable behaviour and informed consumption (critical consumption, corporate social responsibility, responsible tourism, etc.) and waste.

The Agency System provides training programmes designed to increase and consolidate the skills and know-how of professionals, researchers and other stakeholders operating in the environmental sector. In addition to providing an opportunity for the dissemination of technical and scientific knowledge, training initiatives also allow technicians active in different environmental spheres to share their methodologies and instruments of application. Increasing use is made of innovative teaching approaches that offer higher levels of effectiveness, being based primarily on practical applications, as well as theoretical concepts.

Training courses are also an effective instrument of response to the obligations set forth in Community and national regulations. To this end, in the second half of 2008, the ISPRA held two chemical safety training course, in accordance with EC Regulation No. 1907/2006 (REACH).

Underlining the importance of this training initiative is the need

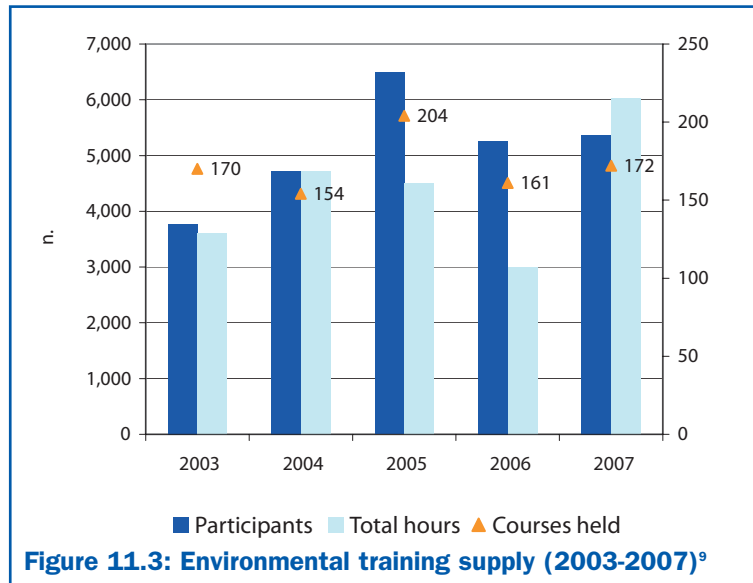


for a methodological approach for courses to be held on a national scale, in order to enable local bodies and businesses to comply with the new system of registration, evaluation and authorisation of chemicals .

Since 2003, the ISPRA has also held environmental training initiatives, at times in response to specific requests from the Ministry of the Environment, Land and Sea, for technicians of environmental agencies and other public bodies. These courses – which were given UNI EN ISO 9001:2000 certification in January 2008 – have focussed on topics of environmental protection and restoration, new methods and tools for risk assessment of polluted sites, environmental reclamation techniques, environmental regulations, as well as instruments for the sustainable management of the territory and for the management of environmental emergencies. To increase the dissemination of technical knowledge on the environment, the ISPRA publishes the technical-scientific contents of the courses on its website for environmental education and training (www.formeducambiente.apat.gov.it).



During the period 2003-2006, the Agency System promoted 861 training initiatives. There were more than 25,000 participants in the courses.



Environmental training activities provide opportunities for contact and exchanges of experiences in the field of environmental protection, at times through initiatives of international cooperation. As part of a joint project involving the APAT and the Egyptian Environmental Agency (under a bilateral agreement between the Italian Ministry of the Environment, Land and Sea and the Egyptian Ministry of Environmental Affairs), an effort begun in 2005 and scheduled for completion in the first six months of 2008, training workshops were held for the reinforcement of technical, specialised skills and know-how regarding environmental protection.

A similar initiative was undertaken as part of the twinning project formally inaugurated in 2005 between the APAT and the Moroccan Ministry of the Environment, with specific workshops organised for the development of technical skills meant to improve the management of environmental policies.

During the period 2003-2007 (Figure 11.3), 861 training initiatives (for a total of 21,864 hours) were organised by the Agency System,

⁹ Source: ISPRA



with more than 25,000 participants taking the courses. In the year 2007, 172 training initiatives were organised on specific topics involving environmental protection and sustainable development, with approximately 5,300 participants attending the courses. An analysis of the statistics shows that each regional Agency promotes different amounts of training activities, based on the tasks assigned to them under their legislative acts of foundation.

It is important to note that a number of agencies have obtained regional/provincial accreditation, and/or accreditation from the Ministry of University Affairs and Research, such as the ARPAs of Veneto, Tuscany, Marche, Lazio and Apulia, meaning that they are authorised to issue training credits for the courses held. A number of agencies, including the ISPRA – as already mentioned - have obtained certification demonstrating compliance with the UNI EN ISO 9000-9001 standards.

Among other training initiatives, the Agency System promotes undergraduate and graduate internships on environmental topics as well as on environmental education and communication for the promotion of sustainable development, under agreements with universities or training providers. An analysis of collected data shows that, as a whole, the Agencies and ISPRA organised more than 760 stages and internships in 2007.

Operational effectiveness of the local environmental education network

The positive responses obtained for indicator “Operational performance in the local environmental education network” point to the increasing integration and active participation of the Agencies in their respective local systems (regional and provincial) of environmental education, at times with tasks of coordination (or of participation in co-ordinating groups) assigned and exercised under an institutional mandate within the regional/provincial educational systems (normally involving the INFEA network). Another area of activity where the ARPA/APPAs play a significant role, and where their contribution has increased over the years, is the supply of technical and methodological support for the activation and performance of participatory processes of local sustainability (first and foremost, local Agenda 21), including promotional activities, the dissemination of informa-

The agencies and the ISPRA organised more than 760 undergraduate and graduate internships in 2007.



Improvement of the environmental quality of companies, organisations and products can be achieved under principles of sustainable production and consumption that lead to the creation of a “green market”.

tion, the heightening of public awareness, education and communication regarding environmental conflicts etc., all as part of a long-standing relationship of mutual knowledge and trust with the territory in which they operate.

In conclusion, it should be noted that all these initiatives are part of a process – one which many agencies have already implemented or are implementing at present – designed to reinforce the sense of responsibility and overall consistency of the Public Administration through projects aimed at promoting good practices of sustainability within government structures.

Instruments for improving environmental services

The growing awareness that the protection of the environment must necessarily involve all interested parties, specifically through the establishment of new forms of collaboration with the leading market operators (firms and consumers), places increasing importance on improving the environmental quality of companies, organisations and products; the primary reference sources for this objective are the European EMAS and Ecolabel Regulations, together with the international standards of the ISO 14000 series.

The EMAS (EC Regulation no. 761/01) and Ecolabel (EC Regulation no. 1980/2000) tools reflect the environmental policy initiated by the European Union under the Fifth Action Program (1992-1999). The traditional mechanism of *command and control* has been supplemented with new instruments of voluntary participation aimed at improving resource management, plus the assumption of direct responsibility for the environment and the promotion of public information with regard to the environmental performance of processes and products.

The first years of application have confirmed the noteworthy value of the above regulations as tools for environmental prevention and improvement. The key underlying objective of the Sixth Action Program and Integrated Product Policy (IPP) can be considered the development and consolidation of a set of measures which, stressing forms of production that respect the environment, together with ecologically aware consumption, should lead to the creation, over the medium/long period, of a “green market”, as well as activation of the principles of Sustainable Production and Consumption (SPC).



The tangible manifestations of this new approach are:

- the intent, as expressed in the Sixth Action Program of the EU, to increase the dissemination of EMAS and Ecolabel Regulations, to promote Green Procurement, in order to accelerate the growth of the “ecological market”, and to improve business to business and business to consumers environmental information, in part by providing incentives for the formulation of Environmental Product Declarations (EPDs);
- the request for the development in each member state of strategies which, by combining the voluntary tools available (EMAS, ECOLABEL, Product Declarations, ECO Design etc.) and the legislative measures, put into practice the “environmental efficiency” principle;
- the innovations introduced on the occasion of the revision of the EMAS and Ecolabel schemes, and in particular: an approach based more on quantitative than qualitative considerations, in order to focus attention on indicators of environmental performance (EMAS III); the extension of EMAS from the industrial sector to all activities; the introduction of the indirect environmental impact (EMAS II) concept, and the extension of the scope of Ecolabel from products to services;
- the strategic role assigned to the public sector and to citizens-consumers as subjects capable of developing the “demand for ecology”.

The creation of the “green market” is a commitment that involves:

- companies - which can improve the environmental characteristics of their products and services during the phases of design and operation;
- consumers - who can give preference to ecologically certified offerings and make correct use of what they purchase;
- the Public Administration - which can provide environmentally adequate services, work towards a correct use of the territory, pay close attention to what it consumes, inform citizens and guide their awareness and behaviour, in addition to introducing bonus incentives, promoting research and harmonising development policies.

As is specified in the “Green Book” on IPP, “Ecological efficiency is an exercise in leadership”, to be developed with the objective



of working towards a new way of producing and consuming. Many instruments are now available (EMAS, Ecolabel, GPP, DAP etc.), and they are technically proven. The way these instruments are combined in their actual application must be the result of strategies formulated on the company level, based on market competitiveness, and within the Public Administration, in terms of decisions and programs regarding development.

To summarise as concisely as possible, the driving factors on which harmonised strategies should be based are:

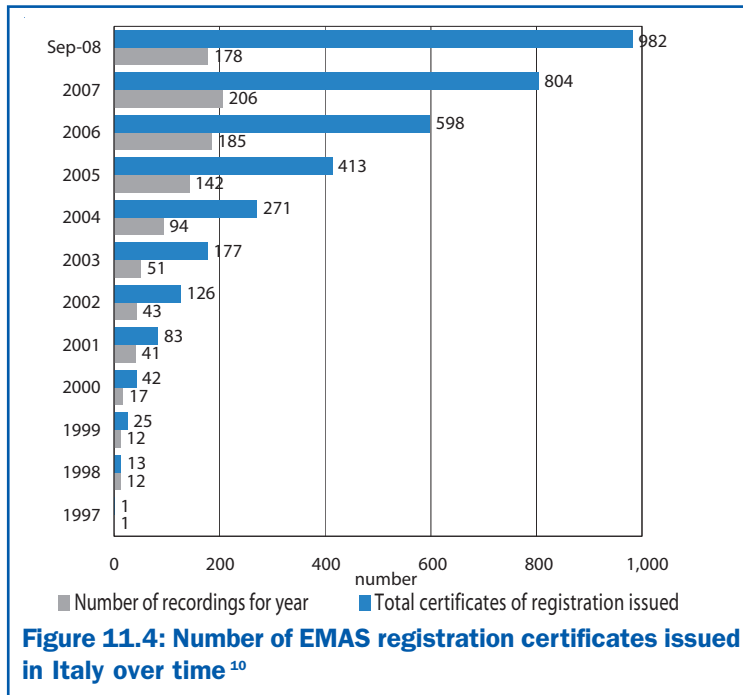
- attention to economic interests, using taxes/subsidies to internalise external costs, so as to identify the “fair price” (introduction of the principles of “if you pollute, you pay” and of the “responsibility of the producer”);
- development of instruments and incentives to promote more ecological consumption, through initiatives regarding both demand and information, and through efforts aimed at heightening the awareness of the administrative bodies that manage public tenders;
- interaction with the offerings of ecological products and services, through the introduction of instruments for comparing information, plus encouragement of the transparency and dissemination of data, requesting that the regulatory sector take action to promote eco-compatible planning and design, plus compliance with environmental compatibility.

In line with the approach referred to earlier, on 16 July 2008, the European Commission approved the Proposals for the Revision of EMAS III and Ecolabel III and sent them to the Council for further approval, together with a new communication on GPP, all in compliance with the new policies for sustainable production and consumption.

From 1997 (the year in which EMAS and Ecolabel Regulations became effectively operative in Italy) to the present, the penetration of the two programs has grown constantly, showing significant annual increases (Figures 11.4 and 11.5).



From 1997 to the present, the penetration of the EMAS Regulation has grown constantly, showing significant annual increases.



In Europe, Italy ranks third in terms of number of EMAS registrations, coming after Germany, while Spain ranks first, followed by France and Denmark, in terms of number of Ecolabel Licences. The most virtuous regions (Central/Northern Italy), in terms of the number of EMAS registered organisations, are: Emilia Romagna, Tuscany, and Lombardy, followed by the region of Campania, showing a certain amount of attention on the part of Southern Italy. The largest number of Ecolabel licenses is registered in Trento Alto Adige, followed by Tuscany, Emilia Romagna, Piedmont and Lombardy.

The increase in EMAS and Ecolabel has been favoured by, among other factors, the development of professional skills and know-how by attending EMAS and Ecolabel schools (Master course),

The most virtuous regions in terms of the number of EMAS registered organisations are: Emilia Romagna, Tuscany, Lombardy, Campania and Veneto, while Apulia and Sicily respectively rank sixth and eighth, showing a certain amount of attention on the part of Southern Italy. The inconsistent development within the national territory reflects different levels of awareness and/or incentives from one region to the next.

¹⁰ Source: ISPRA



whose objective is to provide basic training to professional figures qualified to assist the organisations (EMAS environmental auditors and consultants and Ecolabel consultants), in addition to establishing, in agreement with the academic world, specific masters programs for advanced instruction.

Still, this growth, though it places Italy among the European leaders, is not yet structural in nature, with development being inconsistent within the national territory, as a result of levels of awareness and/or incentives that differ from one region to the other, or among the various local government bodies, production sectors, professional associations etc. Despite the good intentions regarding EMAS shown by the provisions of art. 18 of Law No. 93 of 23 March 2001 (though without the support, it should be said, of subsequent measures of application), as well as the new Unified Act on the Environment (Legislative Decree 152/2006), an effective and incisive sponsorship of voluntary instruments by the pertinent administrative bodies and the interested parties is still lacking.

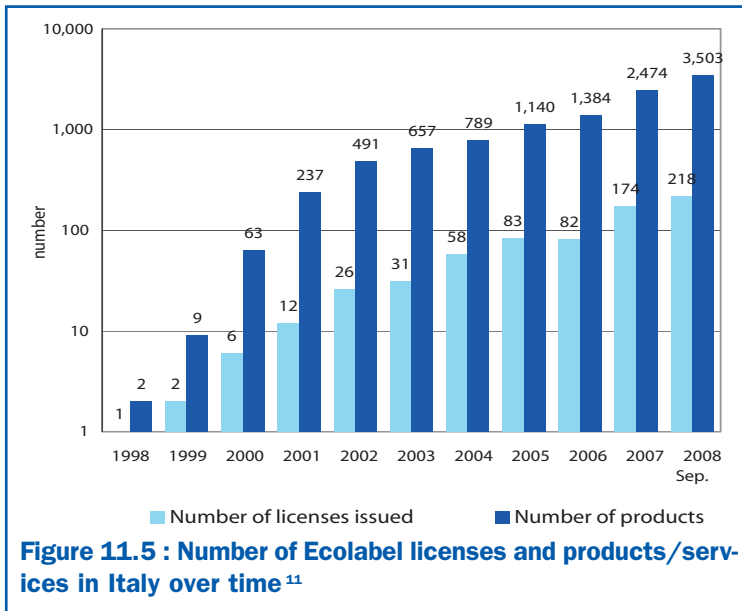
In the case of EMAS, the crucial problems would appear to be: the lack of systematic involvement of the interested parties in the formulation of strategies designed to integrate environmental needs and competitiveness on the market, as well as the lack of development of incentive proposals for subjects that participate in the procedure;

the large number of public entities involved in the procedures of authorisation and control, plus the scarce propensity to place priority on policies of prevention;

the continued shortage of adequate professional skills and know-how within the territory.

As for Ecolabel certification, the fact that environmental criteria have been included in the calls to tender of the Public Administration, and that companies whose products are certified have been awarded points, has led to a significant increase in the interest shown by business enterprises in this tool.

A concrete demonstration of this interest is provided by the increase in certified products and licenses in a number of product groups, such as detergents, textiles and tissue paper. Nevertheless, the largest increase during the last two years occurred in



Between 1998 and 2008, a total of 145 Ecolabel licences were issued, making for 1,827 products/services labelled. The trend was positive for both licenses and products/services. Last year, the largest increase was registered in the tourism accommodation sector.

the tourism accommodation sector, where a far-reaching promotional effort throughout the territory, plus incentives offered by a number of local public administrations, have stimulated the demand for joining the EU Ecolabel scheme, increasing the number of licenses more than three-fold.

It should be noted, however, that even though more than 3,503 certified products and services are available on the Italian market, knowledge of the Ecolabel scheme on the part of the general public, as well as awareness of the EMAS logo, continues to be scarce, still unable to move the market in the direction of “green market” status.

¹¹ Source: ISPRA

