



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 definition of a response strategy the environmental issues facing it.

The concept of sustainable development rests on the three pillars of environment, economy and society.

Introduction

This chapter presents an overview – concise and definitely not exhaustive – of the different cognitive instruments that can be used to ensure that all levels of society have access to in-depth knowledge of an ever-increasing number of environmental matrixes and factors, with a view to raising the level of awareness of environmental issues and facilitating the adoption of increasingly eco-friendly life-styles.

The cognitive instruments selected for presentation in this section include reporting activities and their products, telematic tools for access to environmental data/information, library services, environmental education and training in the strict sense of the term, in addition to initiatives which, through the enactment of the European EMAS and Ecolabel regulations, aim to reconcile environmental improvement with the demands of the competitive market. At both global and local level, the use of these instruments helps steer citizens towards sustainable development, in other words, towards a model of development compatible with the need to safeguard resources.

During the period between *Our Common Future*, the report published in 1987 by the World Commission on Environment and Development, or Brundtland Commission, and the United Nations conference at Rio de Janeiro in 1992, sustainable development gradually became a concept supported by three pillars: environment, economy and society. This model is based on attaining a better quality of life through levels of environmental quality that do not harm either humans or other living species and allow fairer access to resources.

In Italy the first step towards the affirmation of this principle is the “Environmental action strategy for sustainable development in Italy” developed by the Ministry of the Environment Land and Sea and approved by means of CIPE (Inter-Ministerial Committee for Economic Planning) Resolution no. 57 of August 2nd 2002, inspired by the Sixth Action Programme “Environment 2010: our future, our choice” (2001) and the aims of full employment, social cohesion and environmental protection established at the Lisbon and Gothenburg European Councils.

The most recent reference legislation is Legislative Decree no.



4/2008¹, which introduces the principle of sustainable development to the overall environmental protection principles.

This decree clearly states that all human activities must comply with the principle of sustainable development in order to ensure that satisfying the needs of present generations does not compromise the quality of life and possibilities of future generations, and that the actions of public administrations are aimed at enabling the best possible implementation of this principle.

The diffusion of environmental information plays a key role in promoting the principle of sustainability as a shared tenet of environmental culture.

The key tasks of environmental authorities include reporting activities – the systematic collection and publication of data on the environment, also through the use of an information and monitoring system. The authorities responsible for such activities in Italy are the Ministry of the Environment, Land and Sea, the regional Governments, the ISPRA (Institute for Environmental Protection and Research) and local environmental protection agencies.

As well as recognising citizens' right to receive information, to participate in decision-making and to obtain justice on environmental question, a right based on the principles of the 1998 Aarhus Convention, Legislative Decree 195/05² establishes a series of obligations for public authorities. The main ones are: the creation and updating on at least a yearly basis of public environmental information catalogues containing a list of types of environmental information and the diffusion of the environmental information possessed and relevant for the purposes of institutional activities, making use of IT communication technologies and electronic technologies where available.

Moreover, public authorities must transfer the following documents to the databases created: texts of international treaties;

Legislative Decree no. 195/05 recognises citizens' right to access to information, to participation in decision-making and to justice in environmental matters.

Public authorities must create and update, on at least a yearly basis, public catalogues containing environmental information.

¹ Legislative Decree no. 4 of January 16th 2008 "Additional corrective and supplementary provisions of Legislative Decree of April 3rd 2006, no. 152, on environmental regulations"

² Legislative Decree no. 195 of August 19th 2005 "Enactment of Directive 2003/4/EC on public access to environmental information", articles 4 and 8



The web plays a vital role in ensuring that environmental information is widely diffused.

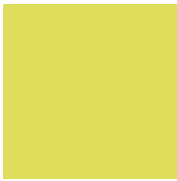
The ISPRA web portal complies with the accessibility, usability and effectiveness requirements laid down by law.

conventions and agreements; European Community, national, regional or local legislative acts concerning the environment; environmental policies, plans and programmes and relative reports on their state of progress, if drawn up or stored in electronic form by the authorities concerned; the state of the environment report at national level and those at local or regional level, if available; data or syntheses of data produced by monitoring of activities with an impact – even potential – upon the environment; authorisations and opinions issued by the competent authorities enacting regulations on environmental impact assessment and environmental agreements, environmental impact studies and assessments of risks relative to environmental elements, or references informing citizens where such information can be requested or obtained.

The web, a powerful information dissemination tool, plays a vital role in ensuring that environmental information is widely diffused. Its flexibility and dynamic nature make it particularly suited to the distribution, among both the general public and specialists, of various types of data and information. The ISPRA web portal supplies information and services to citizens, enterprises and public administration in compliance with both accessibility requirements laid down by Law no. 4 of January 9th 2004 (so-called “Legge Stanca”), as well as with its usability and effectiveness requirements.

Along with other instruments, the services offered by the library network and documentation centres specialised in environmental topics – sometimes the only means of consulting certain documents and data time-series – ensure the diffusion of environmental information via several channels.

Environmental libraries play a major role in the diffusion of knowledge in the field of environmental protection and earth sciences, offering numerous services to both internal and external users: access to public, on-site reading and consultation; bibliographic orientation and reference assistance; internal and inter-library loans (ILL); location of information resources in other library institutions present in Italy via the cooperation and shared cataloguing networks (SBN, ACNP, MAI); document delivery (DD); consultation of on-line resources (OPAC, or Online Public Access Catalogue;



electronic periodicals; environmental, legal and technical regulatory data banks).

The availability of new IT tools has dramatically changed the way that users interface with libraries and use their services: local access is declining in favour of remote Intra/Internet connections and authentication using credentials or IP address recognition. Users frequently use e-mail to make requests for information or loans or for bibliographical research.

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. However, at the same time, the definition and objectives of environmental education have gradually changed. Over the decades the focus of environmental education has widened from the initial protection and conservation of nature (Bangkok conference, 1965) to include anthropogenic activities, the causal relationship between environmental quality and health, and technological progress (Stockholm conference, 1972).

The environment is not merely the natural environment but also the constructed and social environment: the Rio de Janeiro Earth Summit (1992) included environmental education in the “sustainable development” process. The Thessaloniki Declaration (1997) stated that environmental education plays a vital role in launching a process of social and cultural change supporting sustainability. The Johannesburg Summit (2002) reinforced the previous commitments at all levels, both local and global, and proposed the proclamation of the International Decade of Education for Sustainable Development.

In September 2005, UNESCO approved the Draft International Implementation Scheme for the International Decade of Education for Sustainable Development - DESS (2005-2014) which establishes priority and action 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 of sustainability;
- providing training.

Increasing use of remote Intranet/Internet connections to contact libraries and access their services.

Environmental education plays a vital role in launching a process of cultural and social change supporting sustainability.

The Johannesburg Summit proposed the proclamation of the Decade of Education for Sustainable Development.



Environmental training based on increasing technical competences contributes to studies and research into environmental prevention and rehabilitation tools.

In its widest sense, environmental education can now be defined as a tool for the empowerment of citizens, helping them change their 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, occurring 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 anthropogenic component influencing large-scale changes. In short, as established by various European Union acts and documents, the primary aim is not the mere transfer of know-how but the launch of a process of growth involving all citizens and causing them to acquire a new awareness translating into the capacity to change individual behaviour as well as to participate in decision-making, especially at local level, thus favouring shared democratic identification of suitable solutions for specific problems.

Moreover, environmental training also increases technical competences leading to an in-depth knowledge of environmental issues and contributing to studies and research into environmental prevention and rehabilitation. Europe recognises the importance of training on the major issues of sustainability and public health, of the promotion of natural and cultural resources and of life-long training to increase competences, in particular with regard to human resources in public administrations. High quality education and professional training play a key role in allowing Europe to stand out as a knowledge society and compete effectively within the global economy. Although the single EU countries decide their education policies on an individual basis, they jointly establish common aims and share best practices. In 2001, the Gothenburg European council³ launched the first sustainable development strategy, which was later updated in 2006⁴. The new strategy,

³ The Gothenburg European council of June 2001 added the environmental dimension to the Lisbon process

⁴ Council Decision 2006/702/EC of October 6th 2006 on Community strategic guidelines on cohesion [Gazzetta Ufficiale Law no. 291 of November 21st 2006]

which is closely linked to the energy and climatic change policies, underlines the importance of education, research and public funding for the development of sustainable production and consumption models. ISPRA and the Agency System promote various environmental training initiatives, including courses and seminars, with the aim of increasing technical know-how in the environmental protection field and of disseminating operational methods and innovative approaches in this sector. Moreover, internships and training schemes promoted under agreements with universities and training providers lead to useful synergies between Environmental Agencies and the research sector.

DISSEMINATION OF ENVIRONMENTAL INFORMATION

Recent years have seen a considerable improvement in the dissemination of environmental information, promoted on the base of both Community and Italian environmental protection legislation⁵, thanks in part to the technological innovation that has increased its effectiveness. As well as helping improve understanding of environmental phenomena, the promotion of an environmental culture among a wide public – based on the systematic collection and processing of environmental data disseminated by means of standard procedures and harmonised by the environmental authorities holding such information – also generates a growing demand for information.

The said Legislative Decree 195/05 is intended to guarantee the right of citizens to access environmental information held by public authorities and lays down the terms, basic conditions and procedures allowing this right to be exercised, ensuring that, for the purpose of greater transparency, this information is systematically and progressively placed at the disposal of the public and disseminated, also by means of telecommunication services and IT tools, in easy-to-consult forms or formats, recommending that information and communication technologies are used for the purpose. On account of this, a number of Environmental Agencies have launched a review process of information offered, based on

⁵ The main legislative references are presented and illustrated in the 2008 edition of the *Key Topics* (pp. 309-310)



Technological innovation has contributed to increasing the effectiveness of environmental information dissemination.

Environmental awareness is also created by news and data diffused by press and other media.



shared forms and methods, to ensure that up-to-date information is constantly made available using innovative technological tools. This process will presumably lead to a redefinition of the environmental information system overall, which will not only affect the tools adopted but also the nature of the information itself and, consequently, its organisation.

Moreover, dissemination of environmental information also includes the production of “informal” information, by which we mean news and data communicated by the press and other media involved in creating environmental awareness.

ISPRA organised a study, based on text analysis⁶, of the words used in headlines of newspaper articles published in Italy between January 1st and June 30th 2009.

Several arguments were taken into account and classified as “features”: ISPRA; ARPA/APPA; Ministry of the Environment, Land and Sea; waste; renewable energy; nuclear; pollution; emergency; environment: biodiversity, fauna, climate; environmental sustainability, others. The press clippings of articles examined published in the leading Italian daily newspapers and periodicals⁷ (Table 11.1) includes a non-probability sampling of 3,401 articles, with a total of almost 25,800 graphic forms (words/occurrences) with a vocabulary of around 6,000 different words. The preliminary phase of the study, which involved the analysis of graphic form frequency, revealed that the key word⁸ with the greatest number of occurrences is “waste” (around 270), followed by “energy” (200) and “nuclear” (170).

⁶ Cf. Benzecri, 1981, *Pratique de l'Analyse des Données en Economie*, tome 3: Linguistique et Lexicologie, Dunod, Paris and Cf. Bolasco, 2002, *Analisi Multidimensionale dei dati*, Carocci editore

⁷ Corriere della Sera, La Repubblica, La Stampa, Il Messaggero, Il Tempo, Il Giornale, Libero, Il Foglio, L'Unità, Avvenire, Il Mattino, La Gazzetta del Mezzogiorno, Il Secolo XIX, Il Giorno, Il Gazzettino, La Nazione, Il Resto del Carlino, Corriere Adriatico, Il Tirreno, Corriere del Mezzogiorno, L'unione Sarda; Il Sole 24 Ore, Finanza&mercati, Finanza & Mercati Sette, Milano Finanza; L'Espresso, Panorama, Italia Oggi, etc.

⁸ The keywords are technically defined as “full” when they transmit the meanings being examined. Words that do not express meanings of intrinsic importance are defined as “empty” (for example, definite and indefinite articles, prepositions, etc) and are not taken into account for the purpose of the analysis



In particular, the topic of “waste” is the most frequent subject of analysis, regarding 18.6% of articles, especially during the first three months of the year during the Naples waste emergency, while only 8% of articles dealt with “nuclear”. During the time period examined, there was a widespread press debate concerning those in favour of “nuclear” and those against, in response to the government’s plan to present legislative measures concerning the location of new nuclear power stations as part of the policies intended to reduce Italy’s dependence on non-renewable energy sources. In addition to nuclear energy, 14.5% of the articles in the sample concerned renewable energy, in particular solar and wind power.

Current events also influence the topics dealt with by the press: for example, April saw a rise in articles about seismic risk in response to the Abruzzo earthquake that took place that month.

In the first half of 2009 18.6% of articles published in the leading Italian newspapers and periodicals were dedicated to “waste”.

Current events influence the environmental topics covered by the leading Italian newspapers and periodicals.

Table 11.1: Articles by month of publication (2009)⁹

Month	Articles		Key words
	no.	%	
January	575	16.9	Recycling, gas, Salento, regasification plants
February	671	19.7	Chiaiano, dioxins
March	631	18.6	Colleferro, waste
April	638	18.8	Earthquake, regulations, safety plan
May	516	15.2	Blue Flag
June ^a	370	10.9	Palermo, Pellets, Sea
TOTAL	3,401	100	

^a The number of articles is less than the number in other months because the analysis did not take into account the entire month

Environmental information from reporting and mass communication media

For a number of years now 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

The Agency System’s most widely used reporting products are: state of the environment reports, yearbooks, manuals, guidelines and thematic reports.

⁹ Source: ISPRA



of the environment reports/yearbooks, manuals/guidelines, “thematic” reports and proceedings of technical-scientific events (conventions, seminars, study days, etc.).

The development of reporting methods and the ever-closer examination of environmental themes, together with the use of new technological tools for environmental data dissemination have led to the increasing diversification of publications and the creation of catalogues including extracts and specific publications on indicators, maps, fact sheets etc.

Table 11.2: Presence/absence of environmental data yearbooks and state of the environment reports¹⁰

Agency system		2006	2007	2008
		Presence/Absence		
ARPA/APPA	Piedmont	• •	• •	• •
	Aosta Valley	•		•
	Lombardy	• •	• •	• •
	Bolzano	• •	• •	• •
	Trent		•	
	Veneto	• •	• •	• •
	Friuli Venezia Giulia	• •	•	•
	Liguria	• •	•	•
	Emilia Romagna	•	•	•
	Tuscany	•	•	•
	Umbria		•	•
	Marche			
	Lazio			
	Abruzzo	•		
	Molise			
	Campania			•
	Apulia		•	•
	Basilicata	• •	•	
	Calabria		•	
	Sicily	•	•	•
Sardinia				
ISPRA	•	•	•	

Legend: • State of the environment report; • Environmental data yearbooks

¹⁰ Source: ARPA/APPA data processed by ISPRA



The methods used to disseminate these publications and other documents about the environment of interest to citizens have also evolved. The Ambiente in Liguria¹¹ portal, for example, gives access to the main environmental topics as well as various on-line services (data bank catalogue, maps, legislation, plans and programmes, publications and videos), while other Environmental Agencies are also adopting similar approaches.

The yearbook and report drawn up by Environmental Agencies provide an overview of the local environmental situation including emergencies and critical areas for which structural rehabilitation and prevention policies will be developed. In the light of the recent legislation described above on access to environmental information, it is likely that the products used to disseminate reliable up-to-date information during the last decade – namely, the yearbook and report – will also be reviewed in terms of data presentation and diffusion methods.

Table 11.2 contains a concise overview of environmental information disseminated by the Agency System, from 2006 to 2008, by means of the environmental data yearbooks and state of the environment reports. During the reference period, ARPA Piedmont, ARPA Lombardy, ARPA Veneto and APPA Bolzano produced both yearbooks and reports. It should be pointed out that under the regional laws establishing them, some Environmental Agencies do not have the task of drawing up these documents. In such cases the responsibility is assigned to other bodies.

The yearbooks and reports allow the Environmental Agencies to make a real contribution to dissemination of local data, and by reviewing and developing these products (for example, by updating indicator sets) it helps to bring about the growth of environmental awareness at national level. The reporting products diffused via the websites of the environmental agencies contain various examples of this. ARPA Piedmont, which has drawn up state of the environment reports since 1999 with the aim of diffusing exhaustive information on the environmental conditions in the region and on their evolution, has extended environmental reporting to various

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

The Environmental Agencies contribute to the diffusion of local environmental data by means of yearbooks and state of the environment reports.

¹¹ www.ambienteinliguria.it



The Agency System also diffuses environmental information via mass media: press releases, articles, press conferences, radio and television presences, etc.

publications, including Environmental Indicators and Indicator Maps, as well as developing dynamic versions of some of these documents. ARPA Veneto also publishes a regular Report on environmental indicators in the Veneto¹² in addition to its yearbooks and standard environmental reports. The 2009 environmental report of ARPA Piedmont was drawn up jointly with the state of the environment report developed by the Piedmont Region.¹³ Over the years, the report, which is concerned with representing environmental phenomena, was also developed in relation to a document drawn up by the Region, which is more strategic in a nature and dedicated to identifying actions, trends and plans supporting planning activities. The report on the state of the environment in Lombardy in 2008/2009 (comprising a printed volume and CD titled “Segnali ambientali”, Environmental signals, and “Resoconto dei dati ambientali”, Environmental Data Summary, respectively) offers a concise assessment of socio-economic and environmental aspects in Lombardy as well as the main indicators related to the state of the environment and pressures, and can be considered a yearbook of environmental data. This report responds to the need to combine two aspects of environmental reporting – descriptive and tendential.

As far as the diffusion of environmental information via mass media is concerned (Table 11.3), the Agency System has further consolidated its position in the press, on radio and television. The number of articles in newspapers and periodicals and presences in press, radio and television have also increased with respect to last year.

¹² The most recent edition (2008) is available at <http://indicatori.arpa.veneto.it/>

¹³ Access via <http://rsaonline.arpa.piemonte.it/rsa2009/index.html>



Table 11.3: Activities carried out using mass media (press, radio, television) (2008)¹⁴

Agency system	Press releases	Articles in newspapers and periodicals	Press conferences	Press presences	Radio presences	TV presences
	no.					
Piedmont	26	8	5	1,533	156	207
Aosta Valley	2	5	0	25	5	5
Lombardy	15	13	1	3,800	100	53
Bolzano	100	150	30	500	800	250
Trent	14	1	5		-	-
Veneto	50	-	20	3,247	-	-
Friuli Venezia Giulia	64	38	1	630	2.249	524
Liguria	14	4	4	1,000	25	250
Emilia Romagna ^d	40	100	10	800	150	100
Tuscany	19	0	4	3,163	-	-
Umbria	35	14	6	1,145	25	75
Marche	99	19	4	99	3	10
Lazio	14	119	4	1,771	5	8
Abruzzo	13	0	5	122	5	7
Molise	30	30	0	150	30	30
Campania	30	0 ^a	1	277 ^b		46 ^c
Apulia	28	6	1	434	8	20
Basilicata	20	20	2	90	450	150
Calabria	85	450	8	735	69	35
Sicily	1	1	1	-	2	2
Sardinia	2	0	2	15	0	6
ISPRA	50	500	2	900 ^a	35	50

^aexcluding products for ARPAC journal

^bexcluding newspapers diffused in the provinces of Avellino, Benevento, Caserta and Salerno and holidays

^coverall estimate for radio and TV

^destimates

^eincluding 200 press agency launches

Environmental information and communication on the web

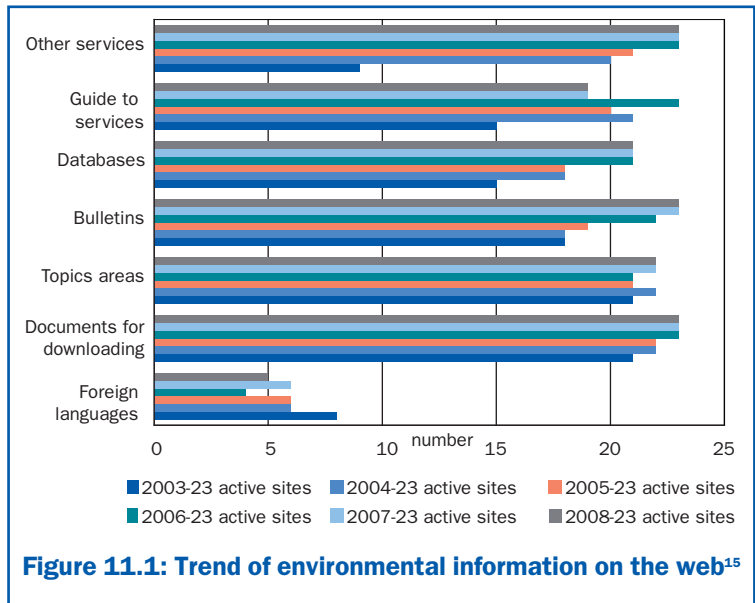
As far as environmental information on the web is concerned, 2008 monitoring has remained steady with respect to 2007 in terms of all the variables monitored, with the exception of foreign language versions of Environmental Agencies, which have always

¹⁴ Source: ARPA/APPa data processed by ISPRA



The web's key role in diffusing environmental information is confirmed.

been scarce and have now registered a further drop on last year, probably due to the relatively high costs involved. Overall, the fundamental role played by the web in diffusing environmental information seems to be confirmed, as shown in Figure 11.1.

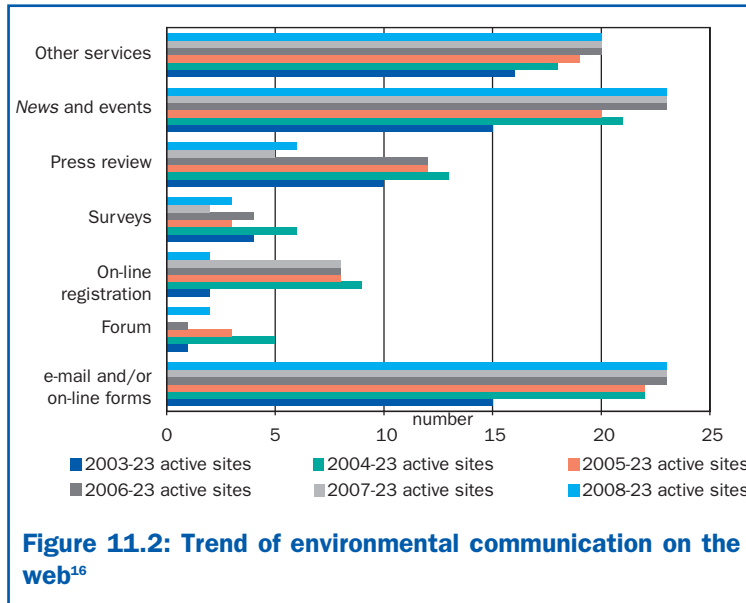


As far as environmental communication on the web is concerned, Figure 11.2 shows a more dynamic trend of information variables, including the increase in the use of various communication tools with a reasonable degree of interactivity such as on-line forums and surveys, and press cuttings, while there has been a drop in the use of on-line tools for institutional events. E-mail and online forms, news and events are the most frequently present instruments, encountered on all sites monitored from 2006 onwards. Interactive tools such as e-mail and online forms, and environmental news and events are confirmed as the preferred environmental communication tools of the Environmental Agency system.

¹⁵ Source: ARPA/APPA data processed by ISPRA



The Agency System's most widely used environmental communication tools are e-mails, on-line forms, news and events.



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 trend shows a fairly static overall situation, with some minor changes like the Arpa Sicily where a documentation centre was opened or the Arpa Apulia where improvements are being carried out to the library. However, many agencies continue to lack libraries and documentation centres including: Piedmont, Aosta Valley, Bolzano, Trent, Umbria, Abruzzo, Basilicata, Calabria. In some cases, like, for example, Friuli Venezia Giulia and Sardinia, there are no proper library services despite the considerable amount of documentation present.

The ISPRA library has extended the range of topics and research areas offered to users.

¹⁶ Source: ARPA/APPA data processed by ISPRA



In Italy the supply of environmental education initiatives and training programmes, by both institutions and non-institutions, is very high.

The Local Agenda 21 committee promotes numerous activities on various themes implemented by work groups.

The ISPRA library – the result of the fusion of the libraries of the former APAT, ICRAM and INFS bodies – has extended the range of topics and research areas offered to users by giving them access to highly specialised sectoral material.

ENVIRONMENTAL EDUCATION AND TRAINING PROGRAMMES

Environmental education does not begin and end in school, but concerns the whole of society, extending into adulthood via 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 underlying the “Decade of Education for Sustainable Development” (2005-2014), whose successes and failures five years on were examined in a stock-taking during the World Conference held in Bonn in April this year.

The Italian National Commission for UNESCO continued its coordination activities at home with the support of the National Committee which comprises numerous actors, both institutional and non-institutional, including the Ministry of the Environment, the Ministry of University and Research, ISPRA and the 21 ARPA/APPAs, regional education departments, bodies, networks and associations.

In addition to organising the “National Week of Education for Sustainable Development” – involving a series of initiatives linked to “Cities and citizenship” along with other sub-themes for 2009 - these organisations have also focussed on building links to reinforce information and dissemination as collaboration and integration of competences and services among actors belonging to the network in order to increase the effectiveness and visibility of the various activities proposed and contribute to their continuity in time.

There are numerous networks dedicated to sharing best practices and creating international partnerships including the Local Agenda 21 committee which promotes numerous initiatives –



aimed at both information sharing and action – on a range of issues from waste to participatory democracy, from green tenders in public administrations implemented by work groups coordinated by local authorities. Another network that has been active for many years in the area of research and exchange of good practices at international level is the promoter of WEEC (World Environmental Education Congress), which brings together bodies and institutions from all over the world and organises an international congress every two years. In May 2009, the fifth congress held in Montreal (Canada), gave delegates from all over the world (including an Italian delegation) the opportunity to explore how environmental education can contribute to the well-being of individuals, to social innovation and integration of the environment in public policies in the twenty-first century.

Environmental education and training offer

This study reveals a vast panorama of education and awareness-raising initiatives promoting sustainability in which the Agency System is just a part, albeit a significant one in terms of both value and number.

As far as education is concerned, since 2008 the Working Group of the Agency System for Education Oriented to Sustainability (EOS), in line with the basic goals of the decade, has been trying to promote initiatives focussing on sustainability education, both from an epistemological and methodological point of view. It has involved national and local components of the education system, in particular the INFEA system (national environmental education, training and information) as well as local authorities and organisations, which will all contribute to identifying shared planning approaches and instruments at the service of an increasingly effective sustainability education capable of having a real influence upon society. Activities included the Modena Network Seminar held in June 2008 and the fine-tuning of communication tools such as a virtual workroom and electronic newsletter (currently being tested).

The environmental education initiatives examined were either promoted by the Agency System or carried out with its technical



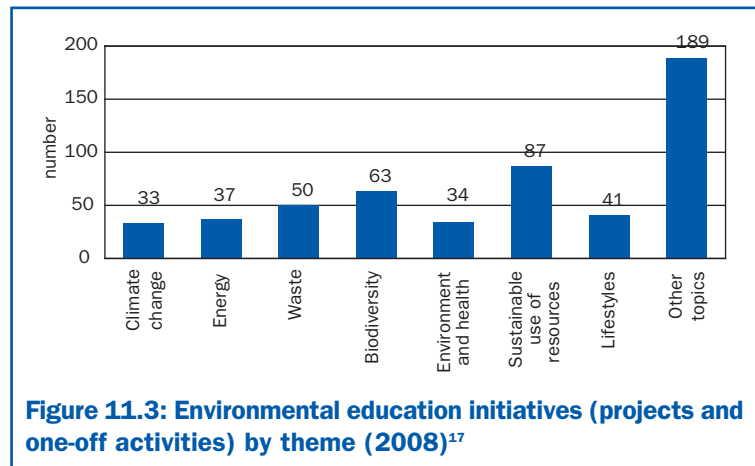
In 2008 the Agency System promoted 492 environmental education initiatives comprising 234 projects and 258 single activities; 25 projects were multi-year and 162 were carried out throughout the region concerned.

Most of the environmental education initiatives carried out in 2008 concerned “Other topics”, that is: sustainable tourism, management of marine coastal waters, quality of the local education network, etc.

and organisational support and are grouped in two categories: projects – structured activities taking place over a longer period of time, and activities – one-off education sessions.

A total of 492 environmental education initiatives were recorded for 2008 by the Agency System, of which 234 were projects and 258 single activities. Of the projects 25 (11%) were multi-year initiatives, 162 (69%) were carried out throughout the region involved, and 184 (79%) were developed in collaboration with other bodies and actors.

In terms of target, a slightly greater number of initiatives (projects plus other activities) involved adults rather than school-aged children.



Most of the initiatives carried out in 2008 were classified under the heading “Other topics” (189 initiatives) including activities relative to a range of themes such as sustainable tourism, management of marine coastal waters, quality of the local education network and integrated local planning, etc. They were followed, in decreasing order, by “Sustainable use of resources” (87), “biodiversity and protected areas” (63), “Waste” (50), “Lifestyles” (41),

¹⁷ Source: ISPRA



“Energy” (37), “Environment and health” (34), “Climate change” (33)¹⁸.

The Agency System promotes a series of training initiatives in line with the principles expressed by the European strategies recognising the importance of enhancing human resources and strengthening technical skills in order to respond to environmental, economic and social challenges. To this end the Agency System provides training programmes designed to increase and consolidate the professional skills and know-how of technicians, researchers and other stakeholders operating in the environmental sector. Several Agencies have been awarded accreditation recognising them as training bodies.

Environmental training activities include face-to-face specialist courses, internships, and dissemination of thematic contents via web-sites.

In 2008 the Environmental Protection Agencies and ISPRA held 352 face-to-face courses for a total of 6,779 hours with the participation of approximately 6,500 environmental experts. Most of the courses were short (333 provided under 50 hours of training), while less courses were medium or long (19 courses provided from 50 to 150 hours of training). The number of women participating was rather low (38%) compared to the number of men. 6% of courses promoted by the Agencies were financed with external funds. In-depth examination of environmental themes is also carried out by means of internships which give rise to positive opportunities for collaboration between Agencies and research and training bodies, including universities. In 2008 16 Agencies, including ISPRA, organised a total of 737 internships, 52% involving women graduates.

The Agencies and ISPRA also use their web-sites to promote the diffusion of specialist know-how on environmental themes, disseminating technical-scientific contents presented in the context of

European strategies recognise the importance of enhancing human resources in order to meet environmental challenges.

In 2008 the Environmental Protection Agencies and ISPRA held 352 face-to-face courses involving 6,500 participants.

¹⁸ The sum of the number of initiatives associated with the single thematic areas does not coincide with the total number of environmental education initiatives because some of them concern several thematic areas



Environmental Agencies supply local bodies and schools with technical and scientific support and consultancies for the planning of environmental education activities.

face-to-face training courses, workshops, seminars and technical laboratories. In 2008, 40% of the Agencies, including ISPRA, put the contents of 81 training events on-line.

Operational performance of the local environmental education network

The “Operational performance of the local environmental education network” indicator reveals a more stable situation compared to previous years regarding integration and active participation of the Environmental Agencies in their respective local environmental education systems (both regional and provincial), at times with tasks of coordination (10 Agencies out of a total of 15 responses) or participation in co-ordinating groups (present in 10 Agencies) exercised under an institutional mandate within the regional/provincial education systems (normally involving the INFEA network).

The situation is similar with regard to supply of technical and methodological support for the activation and implementation of participatory local sustainability processes (Local Agenda 21) where 9 out of 15 Agencies have provided support in the form of promotional activities, information dissemination, public awareness-raising activities, education and communication in situations of environmental conflict etc, as part of a long-standing relationship of mutual knowledge and trust with the local area in which they are based. In conclusion, nearly all Agencies examined (14 out of 15) supply local bodies, schools and other actors with technical-scientific support and consultancy for the planning of educational activities.

In the future, however, these efforts could be expanded through the collection of a greater amount of information, distinguishing between functions describing the operational offer of the Agencies (or of the bodies examined) in the local area (for example, education, local planning, research and documentation) and functions more closely linked to their capacity to integrate local or national networks (for example, coordination of the network itself, communication, monitoring and assessment tasks).

INSTRUMENTS FOR IMPROVING ENVIRONMENTAL SERVICES

The growing awareness that the protection of the environment must necessarily involve all stakeholders, specifically through the establishment of new forms of collaboration with the leading market operators (enterprises 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) schemes express the environmental policy launched by the European Union under the Fifth Action Programme (1992-1999). The traditional command-and-control mechanism has been supplemented with new voluntary participation tools designed to improve resource management and assumption of direct responsibility for the environment as well as favouring 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 instruments of environmental prevention and improvement. The key underlying objective of the Sixth Action Programme and Integrated Product Policy (IPP) is to develop and consolidate a set of measures focussing on environmentally-friendly forms of production and ecologically-aware consumption in order to create, in the medium-long term, a “green market” as well as to activate the principles of Sustainable Production and Consumption (SPC). The tangible manifestations of this new approach are:

- the intent, as expressed in the Sixth Action Programme 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-consumer 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 integrating the voluntary instruments available (EMAS, ECOLABEL, Product Declarations, ECO Design etc.) and the provi-



Improvement of the environmental quality of enterprises, organisations and products plays a key role in environmental protection.

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The creation of a “green market” involves: companies, consumers and Public Administrations.

sions of legislative measures with the aim of putting into practice the principle of “environmental efficiency”;

- the innovations introduced on the occasion of the revision of the EMAS and Ecolabel schemes, and in particular: a quantitative rather than a qualitative approach in order to focus attention on environmental performance indicators (EMAS III), the broadening of Ecolabel award criteria to include social aspects in addition to strictly environmental considerations, and the extension of its field of application to process chains not just products for end consumers;
- the strategic role assigned to the public sector and to citizens-consumers as subjects capable of developing the “demand for ecology”.

The creation of a “green market” involves:

- companies, which can improve the environmental characteristics of products and services during the design and commissioning phases;
- consumers, who may choose from an ecologically certified offer and use their purchases correctly;
- the Public Administration, which can provide environmentally adequate services, work towards a correct use of the local area, 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.

The “Green Paper” on IPP states that “Eco-efficiency [...] is a leadership practice” to be developed with the objective of working towards a new way of producing and consuming. Given that a great number of technically proven instruments are now available (EMAS, Ecolabel, GPP, EPD etc.), close attention must be paid to ensuring that they are applied using strategies drawn up at company level, on the basis of market competitiveness, and at the level of administrations, in relation to development policies and programmes.

In brief, harmonised strategies must be driven by the need to:

- impact economic interests by using taxes/subsidies to internalise external costs and identify the “right price” (introduction of the “pay as you pollute” and “producer responsibility” principles);
- develop instruments promoting better ecological consumption



through initiatives affecting demand and information and also involving awareness-raising with regard to administrations managing public tenders;

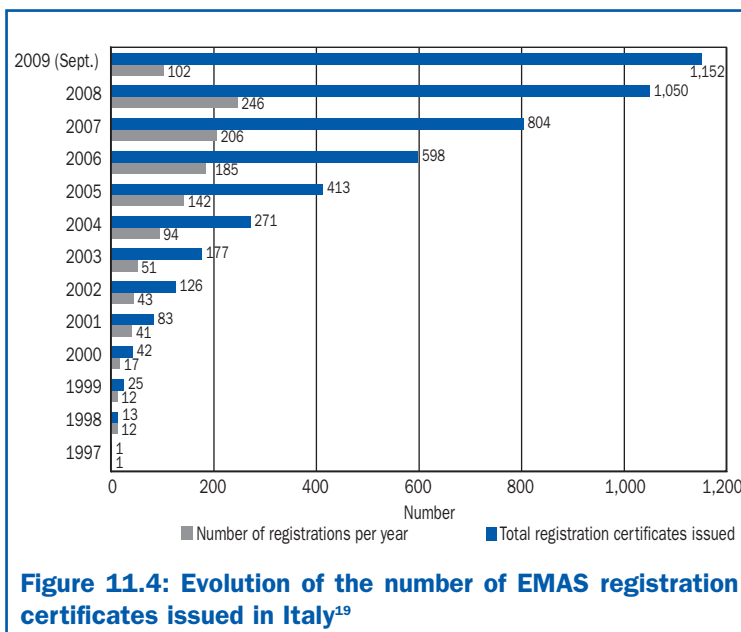
- introduce information comparison tools to be used in connection with ecological product and service offers, encouraging transparency and data dissemination and motivating the regulatory sector to intervene with regard to eco-compatible planning and environmental compatibility compliance.

In line with the approach of the European Commission, which included EMAS, Ecolabel and GPP in new sustainable production and consumption policies, the European Parliament adopted the new EMAS III and Ecolabel III texts (awaiting publication).

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

From 1997 to today penetration of EMAS and Ecolabel has grown constantly, a significant annual rate of increase. 2009 saw a drop in the rate of increase in requests for EMAS certification.

The most “virtuous” regions in terms of number of EMAS-registered organisations are: Emilia Romagna, Tuscany, Lombardy, Veneto and Apulia. The uneven coverage reflects differing levels of awareness and/or local incentives.



¹⁹ Source: ISPRA



The greatest number of Ecolabel licences were issued in Trentino Alto Adige followed by Emilia Romagna, Tuscany, Lombardy and Piedmont.

The growth of EMAS and Ecolabel (Italy is among Europe's leaders) is still uneven due to differing levels of awareness and/or incentives in different regions, local administrations, and production sectors.

In 2009 there was a slight drop in the increase of requests for EMAS certification for reasons that require further investigation but can ultimately be attributed to the economic crisis.

In Europe, Italy ranks third in terms of EMAS, after Germany and Spain, while it ranks first for Ecolabel, followed by France and Denmark. The most "virtuous" regions in terms of number of EMAS-registered organisations are: Emilia Romagna, Tuscany, Lombardy, Veneto with Apulia in fifth place. The greatest number of Ecolabel licences were issued in Trentino Alto Adige followed by Emilia Romagna, Tuscany, Lombardy and Piedmont.

The increase in EMAS and Ecolabel was also favoured by the development of competences and professional know-how acquired in local EMAS and Ecolabel schools, whose aim is to train professionals qualified to assist organisations (EMAS environmental auditors and consultants and Ecolabel consultants), in addition to establishing, in agreement with academic institutions, specialist university courses.

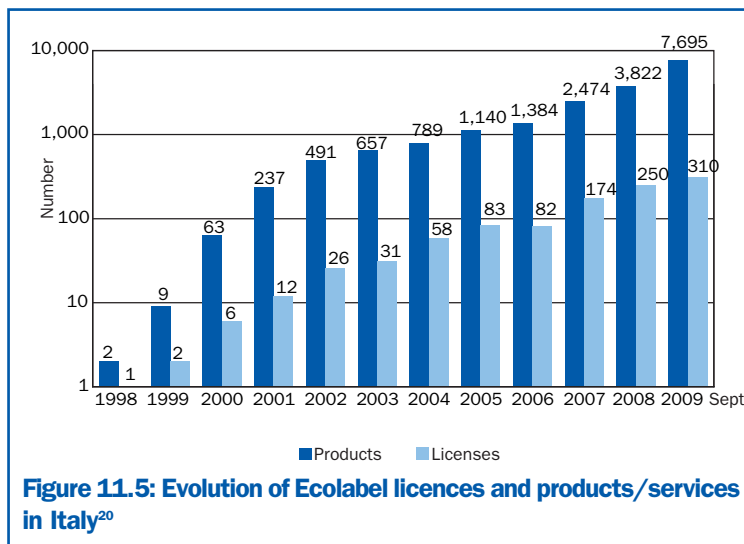
Although this growth places Italy at the forefront in Europe it is not yet uniform. Local development is uneven due to differing levels of awareness and/or incentives in different regions, local administrations, production sectors, professional associations etc. Despite the good intentions regarding EMAS shown by the provisions of art. 18 of Italian Law no. 93 of March 23rd 2001 (though without the support, it should be said, of subsequent application measures), together with the new Consolidated Environmental Law (Legislative Decree 152/2006), an effective and incisive sponsorship of voluntary instruments by the competent administrative bodies and interested parties is still lacking.

The critical areas with regard to EMAS seem 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 and develop incentive proposals for participants in the scheme;
- the large number of public bodies involved in authorisation and control procedures and the failure to promote prevention policies;
- the continued shortage of adequate professional skills and know-how at local level.



As far as the Ecolabel is concerned, in recent years there has been a two-figure growth rate both in terms of numbers of licences and numbers of products. Alongside promotion activities carried out in recent years, the inclusion of environmental criteria in public administration tenders and a points system for companies with certified products have led to a considerable increase in the interest shown by businesses in this type of instrument. This interest took the shape of an increase in certified products and licences in various product groups such as hard floor coverings, textile products, tissue paper and indoor paints and varnishes. Nevertheless, the greatest increase in the last three years occurred in the tourism sector where intense promotional coverage at local level combined with incentives offered by various local authorities stimulated the demand for participation in the scheme, increasing the number of licences three-fold.



Between 1998 and September 2009, 310 Ecolabel licences were issued for a total of 7,695 products/services. The positive trend regards both licences and products/services. Last year, the largest increases were registered in the “tourism” sector in terms of licences issued (+81) and in the “hard flooring” sector in terms of number of products (+3,635).

It should be noted that even though 7,695 certified products, goods and services are available on the Italian market, the general public is not sufficiently aware of either the Ecolabel or EMAS logo

²⁰ Source: ISPRA



to move the market towards a “green market”. However, market surveys have confirmed a gradual improvement in knowledge of the Ecolabel at both European and domestic level, leaving room to hope for a turnaround in the medium term.