

ENVIRONMENTAL EDUCATION IN ITALY: TRAINING SUPPLY AND POSSIBLE SCENARIOS

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Summary

Sustainable development is only possible if all operators, in their own domain—center/local, professional/private—direct their actions and attitudes towards the principles of conserving and protecting the environment and its diversity.

Environmental education is fundamental to bringing about profound change in deep-rooted customs and habits as well as in mentality and culture that is aimed at developing a predisposition towards eco-compatible behavior.

To be effective, environmental training must go beyond a compartmentalized and specialist approach, towards a transdisciplinary and integrated culture that reflects the complexity of the environment.

1. Sustainable Development and the Culture of Prevention: Challenges and Opportunities

We need only watch the television news to become aware of the substantial conflict

between the present capitalistic market and ecological values, of the perverse connection between economic growth and environmental degradation, and of the necessity for a new and different sustainable development model for extracting resources and emitting waste that is capable of satisfying the needs of present and future generations.

The actual development paradigm, founded on limitless material and quantitative growth, with its under-use of labor resources and overuse of environmental resources, has shown itself unable to guarantee predictable, balanced levels of social well-being, thus placing social and environmental matters in a critical light.

Therefore, an alternative model is required that is capable of focusing attention on the interdependence of the economy and the environment. Such a model must also focus on human activity aimed at the pursuit of profit and an intergenerational perspective that often avoids a private analysis of costs and benefits. There is increasing awareness of the necessity for the ecological re-conversion of the whole economic–social system to a new economy that can both offer solutions to environmental crises and emergencies other than the typical clean-up industry and be more competitive at the community level. In other words, it is necessary to have a new type of reality capable of overcoming the apparent antinomy between environment and employment through a rational, modern, and innovative concentration of interests, making prevention, dematerialization, and green employment feasible choices. In short, a reality that is “compatible with the need to respect the region and its resources.”

Considered a restraint until a few years ago, the environment today presents a wealth of opportunities and strategic worth for structuring a different kind of economy, a closed cycle economy based on a more rational use of resources, the recycling of materials, the production of services, and new employment opportunities. This is a new development model in which “it is more economical to use more labor and fewer resources, produce fewer goods and more services.” The transformation will affect production, consumption, technology, and science as well as social organization, with the affirmation of new values and cultural paradigms, one being the environment as a system.

This new concept runs counter to the traditional perception of the environmental issue: initially not much thought was given to its potential (in terms of innovation of product, process, allocation of the labor force, and education–training courses), attention being devoted only to environmental problems. There is an increasing conviction that the environmental variable should be managed not only upstream but also, and especially, downstream. In other words, there is growing awareness that the protection of the environment is too complex a problem to be pursued through specific, compartmentalized interventions rather than through a culture of prevention along with the traditional one of recuperation. “Prevention is intended to protect the environment, planned over time and constantly pursued through planning and monitoring activities to manage the emergency today with the objective of being free of it tomorrow.” Hope, linked to the policy of prevention, is more effective in the fight against environmental degradation than simple recuperation, from the clean-up industry that takes advantage of a damaged environment to confronting problems when they occur to social

emergencies.

On the other hand, the importance of a policy of prevention was recognized in the European Union (E.U.) environmental strategy and the Rio Conference of 1992, which highlighted the premise that “prevention is cheaper than recuperation,” indicating that eco-compatibility must be pursued throughout the life cycle of a product and along the entire technological productive chain.

Therefore, it is necessary to rethink the economic–social system not only in terms of the aforementioned process and product innovation, but also in especially affirming the new values, cultural paradigms, and individual behavior that make these innovations feasible and effective.

In this new dimension, environmental legislation, greater awareness, ecological businesses, and environmental movements have defined numerous professional profiles related to the conservation of the natural and cultural patrimony. More specifically, these are new professional profiles (employment in new fields or in previously marginalized fields) or current profiles adapted to the general economic re-conversion. However, we are dealing with potential workers committed to confronting the demand for environmental emergencies or prevention, and capable of applying clean technologies as well as preventing and predicting, applying a systematic and integrated perspective to problems.

Indeed, a correct relationship between the economy and the environment will determine innovative employment opportunities in many areas:

- Protecting, safeguarding and managing the region in all its forms (for example, management of protected areas; safeguarding of the soil; defense of water basins and coastlines; prevention and control of natural disasters)
- Agriculture with a low environmental impact, especially the control and quality certification of agricultural products, organic farming, integrated agriculture, hypofertility and the mortality of newborn cattle and sheep, enterprise accounting and management
- Industry, in production cycle reorganization, de-polluting air, water, and noise, environmental safety, resource management (waste), monitoring and planning, saving, especially energy, research, and technological innovation
- Urban and territorial sectors, in urban de-polluting, reorganization of metropolitan areas, re-qualification of existing structures and redefinition of the hydrogeological network

However, we want to emphasize that such innovation will be possible not only because of advanced applied technological research, which is extremely important for the predisposition of intervention activities in the environmental area, and represents unique employment opportunities. Above all, it will be because of precise political and cultural choices, given that it will require a great change of deeply rooted habits and customs as well as of mentality and culture, whose ecological re-conversion appears to be decisive for realizing a society that is sustainable, and necessary for a policy of prevention that

places conviction before convenience.

On the other hand, it would clearly be foolish to place blind trust in the capabilities of clean technologies to resolve the problems of environmental degradation, unless their application is accompanied by a coherent modification in non-sustainable behavior and habits, both in investment and consumption, as well as in the values that underpin them.

The main objective in the attempt to realize sustainable development consists, therefore, in a radical change in the systems of individual and collective values, with the aspiration of developing greater sensibility in the relationship between humans and the environment, and a natural aptitude for responsible and conscious eco-compatible behavior. Such profound transformations can only occur in the long term and require complex planning of intervention strategies.

The element that characterizes the environmental professionals, apart from an ecological bent, is related to skills. In other words, the systematic, integrated, and global character of their knowledge and approach to environmental problems allows a holistic vision, both horizontal and vertical, of the environmental emergency “that corresponds with the synergies between the various causes of environmental degradation.” From a prevention perspective, this means the capacity to consider the unpredictability of the environmental system by making sure that the issues confronted cover all sectors.

Therefore, as well as offering numerous opportunities in employment terms, the affirmation of a new balance between society and nature presents two types of challenges. The first is of a technological and scientific nature for implementing process and product innovation, and the second is of an educational and training nature, associated with the definition of and training in skills for green jobs. This is aimed at constructing “flexible mental structures, ecologically related and motivated to making the cultural change feasible.” This means that the whole education system is faced with the challenge of realizing targeted knowledge that is no longer only cognitive but is also emotive, ethical, and affective in its perception of the complex relations between humans and the environment. Therefore, given its implications for employment, even the training investment represents a strategic element of the new development model, since “prevention is a value to be treated in a particular way throughout the entire educational course.” Even in the training sector, there has to be an effective environmental policy centered on producing methodological and didactic innovations through the behavior and values of human resources.

Training processes face an onerous task in the context of a culture of change: to transmit more positive values about the environment and fix them in the consciousness of individuals to direct their choices. The two indispensable instruments for the realization of sustainable development are systematic and interrelated knowledge, and eco-compatible values that are capable of affecting individuals and society as a whole.

1.1. The Need for an Integrated, Systematic, and Global Vision of Environmental Themes

The first task of the training system is to construct an eco-systematic culture, teaching

us to “understand complexity as a function of diversity.” Being aware means understanding the complex processes under way. Apart from being an open system capable of maintaining its own structure with the continual transfer of material and energy, the environment is a system of relations and interdependencies between the physical, the biological, and the social, where human beings are only one of the numerous organisms that live in it.

The key to interpreting environmental issues is to assume a systematic and global stance capable of grasping, as far as possible, the chain of interactions that exist between the chemical, physical, biological, and cultural components of every cycle of transformation and of the various forms of environmental degradation.

The general objective, therefore, is to overcome the limits of the traditional culture that is based on a scientific mechanism (the logic of cause–effect–linear knowledge), which has been shown incapable of supplying real knowledge of an environment system that is both dynamic and complex in its evolution. Only by abandoning this reductive approach that isolates the problems can we discover the extent of the effects of human activity on the environment.

Necessary for change is to become aware of an important reality: the environment has an internal organization that is not wholly known to us. Because of this, our actions might affect the environment in ways that are difficult to perceive and to pinpoint. Therefore, environmental training has the hard task of teaching people how to think in terms of relations, of forging a different way of thinking, and of showing ways of managing the environmental variable.

In concrete terms, the cognitive process must be redirected at global aspects and integrated with the issues raised. It must cross all disciplines and look at problems on a world scale, which is essential in the current frame of globalization. This means developing the capacity for transnational interpretation across all sectors, given the need for flexibility, foresight, creativity, and transdisciplinary as well as multidisciplinary skills.

Hence, the challenge lies in providing a particular quality of training for workers involved in environmental activities, giving them the possibility to “see other connections, apart from the simple added connection” in the dimensions of space and biological time.

The importance of these changes has already been understood in Italy, as can be seen by the Program Agreement of February 6, 1996, promulgated by the ministries for Public Education and the Environment. Indeed, Article 2 specifies a commitment by the parties to encourage every initiative considered useful for a concrete and systematic vision of environmental matters in order to promote the correct knowledge of environmental matters and responsible and active behavior towards the common environmental patrimony, in favor of the sustainable management of natural and urban environments. Another example is Circular Number 346 of December 1993—signed by the same ministries—that considered transdisciplinary and interdisciplinary characteristics indispensable for the realization of education courses on nature conservation.

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Biographical Sketches

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