

## **PREPARATION FOR ENVIRONMENTAL MANAGERS**

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### **Summary**

This article considers how professional education and training can be provided in order to prepare environmental managers for their work. In this context “professional education and training” is considered to be the education and training received by the individual during their employment in environmental management. The main purpose of professional education and training is therefore to assist the individual in the performance of their duties. Such education and training may lead to some formal qualification, but this is not the primary goal. The typical skills and knowledge requirements for the environmental manager are considered along with the requirements for education and training. Three case studies are presented which demonstrate how effective support can be provided using a range of methods. The case studies are: an adaptable integrated environmental management training programme; structured training for professional recognition; and a business support model. Some of the techniques used in these case studies indicate future trends for the professional education and training of environmental managers.

### **1. Introduction**

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education and training” is considered to be the education and training received by the individual during their employment in environmental management. The main purpose of professional education and training is therefore to assist the individual in the performance of their duties. Such education and training may lead to some formal qualification, but this is not the primary goal.

Environmental managers are employed in a wide range of work situations. The type of work carried out can be very varied, such as monitoring industrial effluents, auditing environmental management systems, or explaining environmental issues to the public. In this article, the typical skills and knowledge requirements for the environmental manager are considered along with the requirements for professional education and training. Three case studies are presented which demonstrate how effective support can be provided using a range of methods. Some of the techniques used in these case studies indicate future trends for the professional education and training of environmental managers.

## **2. Skills and knowledge requirements for the environmental manager**

The work of environmental managers is wide ranging, but typical tasks include:

- a. Maintaining awareness of environmental legislation;
- b. Developing process changes for compliance with legislation;
- c. Monitoring and analysis of waste streams;
- d. Ensuring conformance with environmental standards.

In order to prosecute such tasks successfully the typical skills and abilities required are:

- a. To understand environmental legislation;
- b. To assess environmental impacts;
- c. To implement integrated pollution monitoring and control systems;
- d. To manage waste minimization, recycling and disposal;
- e. To determine optimal technical solutions.

In addition to these technical skills and abilities, there is increasing recognition of the importance of personal attributes and skills. These include:

- a. Ability to clearly express concepts and ideas orally and in writing;
- b. Ability to work in project teams;
- c. Appreciation of different cultures and business practices;
- d. Ability to handle stress and manage time effectively;
- e. Ability to analyse and interpret data and solve problems.

In the workplace these personal skills combine with technical skills to dictate the overall competence of the individual.

## **3. Typical requirements of professional education and training for environmental managers**

The primary purpose of professional education and training for environmental managers is to enable them to perform their various duties competently. This is achieved by providing relevant knowledge and skills training to meet the individual's needs.

In some countries (for example the UK) there are professional bodies which set out minimum requirements for education and training. These requirements have to be satisfied in order for the individual to be considered suitably qualified and therefore ‘fit’ to practice. These requirements may include; a minimum educational level; a period of training under supervision; passing professional examinations; and continuing professional development throughout the individual’s career. A case study of the “Structured Training” provided by one of these professional bodies is described in Section 4.2.

An important aim of most professional bodies is to publish a register of persons deemed competent to practice in their field. An example is the Environmental Auditors Registration Association (EARA) Scheme. EARA is an independent non-profit making organisation dedicated to raising standards of professional competence in the environmental auditing profession. The organisation publishes an independent register of environmental auditors and environmental management systems assessors. The published register which includes auditors from 46 different countries, gives details of each registrant’s qualifications, training, experience and technical and management capabilities. Clients can use the register as a referral service for commissions. The database can be searched to identify suitably qualified individuals for specific audit projects. The criteria for the EARA Scheme meet or exceed the requirements of ISO 14012 – Guidelines for Environmental Auditing: Qualification criteria for environmental auditors. The organisation also provides accreditation of training courses in environmental auditing and environmental management systems.

In most countries there is no mandatory training for environmental managers. For example, in Sweden a number of professional training companies (e.g. Ecompetence and The Natural Step) give short courses and there is an association of Swedish environmental managers which organises meetings for members, but there is no mandatory continuing education.

In many countries the requirements for education and training of environmental managers are still evolving. For example, in Belgium, environmental managers do not have to be professionally ‘chartered’ yet. The situation is different, however, for each of the three regions of the country: Flanders, Brussels and Wallonia. The situation in Flanders is described.

In Flanders, environmental managers operate mostly at the corporate level within companies. Of greater significance are the environmental co-ordinators who are legally responsible for environmental issues. There are two classes: A and B. The A’s have a university degree and since 1<sup>st</sup> January 2000 a second university award to qualify as environmental co-ordinator. The B’s have a university degree or other higher education qualification and also since 1<sup>st</sup> January 2000 a second award for environmental co-ordinator, but not necessarily from a university. Industrial plants with more complex and potentially dangerous operations and materials require Class A Co-ordinators. The training to qualify as an environmental co-ordinator has to be formally recognised by the government.

Environmental co-ordinators also need to attend 30 hours of extra training per year. This

training requirement has to be recorded and so they should attend accredited training programmes. Training programmes therefore need to be submitted to the government for their approval as recognised continuing professional development for environmental co-ordinators. In contrast to the UK, in Belgium professional bodies do not have such an important role in the process of training and professional recognition.

#### **4. Case Studies of Professional Education and Training**

##### **4.1. STEP Integrated Environmental Management Training**

The Integrated Environmental Management Training programme has been developed within the framework of STEP – Special Training for Environmentally-sound Production. This was a 3-year European Union Leonardo da Vinci pilot project coordinated by UETP-EEE (University Enterprise Training Partnership for Environmental Engineering Education), and with TEK (the Finnish Association of Graduate Engineers) as contractor.

The STEP Project partners included enterprises, research and educational institutions from 14 countries. The main purpose of the STEP Project was to create and promote training to improve environmental performance in industry.

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#### **Bibliography**

The proceedings of the EuroEnvironment Conferences organised by the World Business Council for Sustainable Development contain papers dealing with a range of responses by enterprises to environmental issues. Education and training is an important theme.

The annual proceedings of ENTRÉE contain papers concerned with environmental education and training. These are produced by the EEE Network, Brussels, Belgium.

#### **Biographical Sketch**

**Professor David Cawsey** has an honours degree in Geology and a doctorate in Civil Engineering. He is a Chartered Geologist and a Fellow of the Geological Society of London. His wide experience includes working for central and local governments, higher education, and industry in engineering geology and subsequently in environmental engineering and management. He is the author of more than 50 publications in these fields. Other professional activities have included leading successful international environmental and training programmes, and acting as external examiner and adviser for degree programmes and doctorates. He now combines some university teaching with consultancy and professional activities.