

T_{wo}EA-M - Enhancing Attractiveness of Environmental Assessment and Management Higher Education

Thomas Fischer, Urmila Jha-Thakur, Ingrid Belcakova, Ralf Aschemann

1. Introduction

The European Commission (Education and Culture DG) funded Erasmus Mundus T_{wo}EA-M (Enhancing Attractiveness of Environmental Assessment and Management Higher Education) project is a follow-up from the successfully completed Erasmus Mundus PENTA (Promotion of European education on environmental assessment for Third country Audience; (See PENTA, 2007) project, which was conducted from October 2005 to October 2007. In both projects, project partners have included the University of Liverpool (UK), the University of Technology Bratislava (Slovakia), and the Austrian Institute for the Development of Environmental Assessment. During PENTA, an analysis of the trends in Environmental Assessment (EA) education in nine EU member states (MS) was carried out which provided for some initial insights into the multidisciplinary nature of the subject area.

The T_{wo}EA-M project's emphasis changed slightly from PENTA to include not only environmental assessment (EA), but also environmental management (EM) related degree programmes. This is because PENTA had revealed that EA theory and EM were the only two modules that were commonly taught in all MS surveyed (see Fischer et al, 2007). Furthermore, integration of both, environmental assessment and environmental management is necessary in order to tackle environmental problems across the globe. In the EU, formal environmental assessment requirements were introduced through the EIA (85/337/EEC) and SEA (2001/42/EC) Directives. In case of environmental management, the standards developed by EMAS and ISO14001 exist at both, the EU and the wider global level. The demand for environmental management professionals is rising globally, owing to the environmental challenges faced across the globe. In this sense both, EA and EM are essentially complementary disciplines. Therefore, combining these two inter-related and interdisciplinary subject-areas is expected to cater better to European Union as well as to wider international student aspirations.

PENTA resulted in the production of an EA lecturers' handbook (Fischer et al, 2008), in which an integrated common EA curriculum was proposed along with a strategic environmental assessment (SEA) textbook (See Fischer, 2007). T_{wo}EA-M sets out to verify the usefulness of these materials. In this paper, an overview of the findings of the T_{wo}EA-M project to date is presented. In this context, first an overview of Masters level education for Environmental Assessment and Management in Europe is provided. Secondly, an overview of the feedback received from the East-Asian audience on the relevance of the materials produced during PENTA is given. Finally, the paper reflects on the relevance of EA education in Europe for an East-Asian audience and provides recommendations on how to enhance its attractiveness.

2. Methodology

In the T_{wo}EA-M project, academic, distance learning, as well as professional degree programmes offered by universities were considered. Data collection consisted mainly of an internet-survey. In this context, care was taken to make the search as comparable as possible across EU member states, particularly as the search was conducted in numerous languages. Programmes that offered EA and EM courses as the main focus or even as optional modules were included in this survey.

All EU states were surveyed and these include the UK, Ireland, Spain, Italy, France, Sweden Denmark, Netherlands, Austria, Belgium, Finland, Germany, Slovakia, Poland, Bulgaria, Latvia, Czech Republic, Estonia, Hungary, Luxembourg, Portugal, Cyprus, Malta, Romania, Lithuania, and

Slovenia. No EAM post-graduate courses were identified in Luxembourg, Portugal, Romania and Cyprus. Furthermore, a separate category of ‘combined degrees’ was set up for programmes which are offered by more than one university and involving at least 2 countries. The data collected for this work has involved more than one researcher. Therefore, in an attempt to standardise search techniques, key phrases and words were chosen, including “*Masters Environmental Assessment and Management*” (country name) and “*Masters Environmental Assessment*” (country name). The data collected was standardised with the help of templates which were specifically created for this purpose (Table 1). In some cases, the same university was found to offer more than one EAM related programme. In such cases, only one programme template was completed; however also adding notes about the other programmes (sub-category ‘Remarks’). The main search engine used was Google. Searches made were across the web, as well as through country specific pages. Other search engines were also consulted. In the initial search, programmes from six EU member states had not been identified. These include Romania, Portugal, Cyprus, Malta, Luxembourg and Greece. Subsequently, additional experts were contacted on practice in these countries. Finally two international academic EAM experts were employed to check the adequacy of the findings.

As far as gathering feedback on the materials produced during the PENTA project are concerned, questionnaires were prepared for the professionals/students who participated in three East Asian workshops which were held in South Korea, China and Malaysia. Further to this, an interactive education tool kit¹ was utilised during the workshops.

Table 1. Categories and sub-categories for the Templates

Sl No.	Country Name	Template No.
	Headings	Sub-categories
1	<i>Academic Context</i>	Name of University
2		Web link
3		Degree Title
4		Emphasis (EA or EM)
5		Faculty/ School/Department
6	<i>Programme Implementation</i>	Duration
7		Programme Structure
8		Delivery language
9		Delivery method & techniques
10		Assessment method
11		Focus (teaching/research)
12	<i>Programme requirements & Scope</i>	Geographical specialism
13		Entry requirements
14		Fees (euros)
15		Credit Structure
16		Career opportunities’
17	<i>Remarks</i>	

¹ An interactive tool kit enables the audience to answer questions using a device which helps recording their responses. Such devices are commonly used in game shows in the tv such as ‘who wants to be a millionaire’

3. Overview of EAM related Master Level Courses

Based on the internet survey, a total of 115 EAM related Master programmes were identified across the 21 countries covered. Out of these, a total of 105 programmes have been included in the analysis. As explained earlier, some universities offer more than one EAM related programme. In this case, only one programme has been included. Furthermore, a category of combined courses has been considered. Templates were completed during the summer of 2009. It needs to be added here that only EAM related master programmes offered by universities are included. In Italy and Spain, these also include professional courses offered by universities, which in other countries are at times offered by the private sector.

Fig. 1 Country-wise distribution of EAM related Master programmes

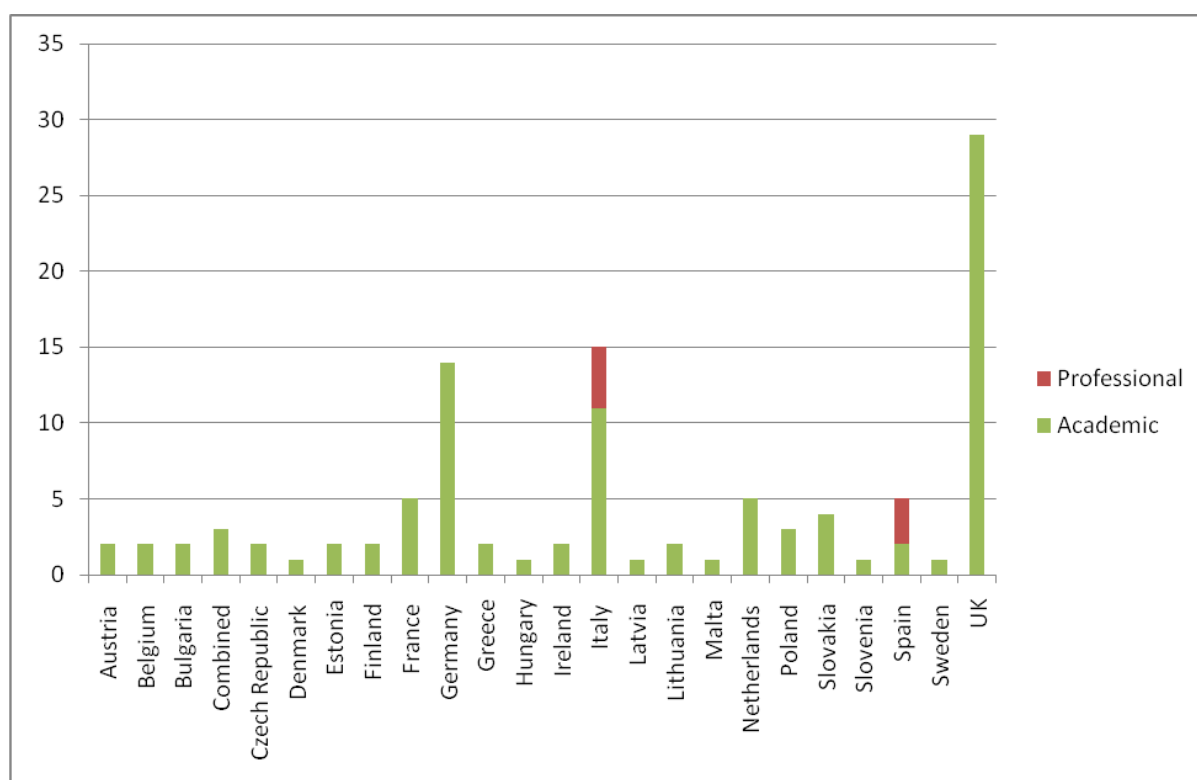


Figure 1 shows the country-wise distribution of EAM related master programmes. UK universities dominate the scene with 30 programmes offered here. This is followed by Italy with 15 programmes, of which 4 are of a professional nature. Professional programmes are usually shorter and more expensive than their academic counterparts. Germany is represented with 14 degree programmes, with one of them being a combined degree (ie co-operation with other EU universities). Both, Spain and France offer 5 programmes each. In the case of Spain, 3 out of 5 are professional programmes. The Netherlands and Slovakia are represented by 4 programmes each, followed by Poland, being represented by 3 programmes. Ireland, Finland, Belgium, Estonia, Lithuania and the Czech Republic are included in the table with each offering 2 programmes, while Sweden, Denmark, Austria, Latvia, Hungary and Slovenia are represented by 1 master level EAM related programme. Combined programmes which involve more than one University in several countries are offered by the Baltic University; the University of Applied Sciences Oldenburg in Germany and the Central European University in Hungary as lead universities.

It needs to be emphasised here that as a result of the Bologna process², many countries' are experiencing a transitional phase with their educational structuring. Therefore, it is possible that all such degrees which have not yet transformed into the BA/MA two tier structure anticipated by Bologna and left out in this survey of Master level degrees. In this context, it is important that the dominance of the UK Master programmes may be owing to the country's long established two-tier educational structure.

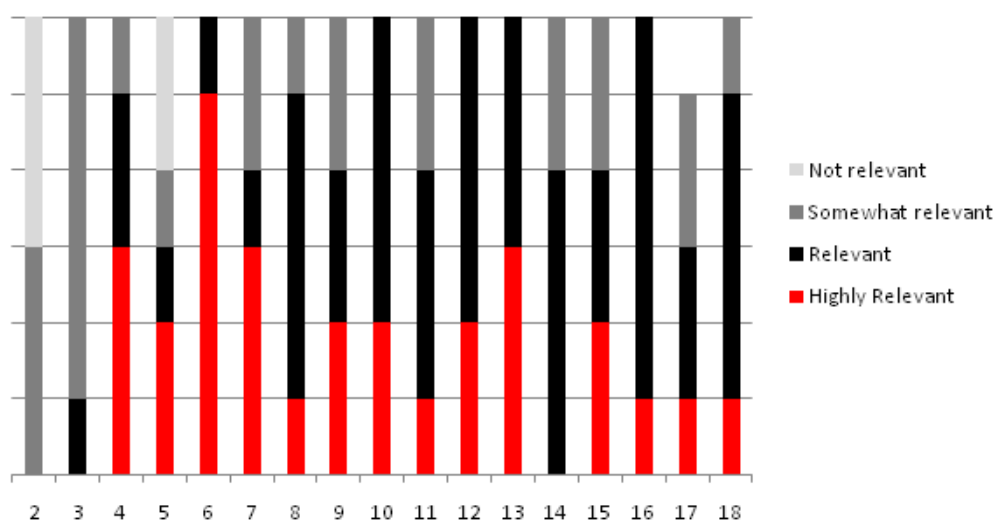
4. Feedback from East Asian Participants

Only the results of a South Korean workshop conducted in Seoul at the end of November 2009 can be considered here (see www.twoeam-eu.net; 'Events'), which was attended by South Koreans, Japanese along with some European participants. Chinese and Malaysian workshops were held at Nankai University and University of Technology Malaysia just before the IAIA conference and data collected from these workshops will be incorporated later.

Overall, the EA lecturers' Handbook (Fischer et al, 2008) was highly appreciated by the Korean and Japanese participants. The main strengths identified were as follows:

- i) It provides a good overview of other EA systems against which the Japanese/Korean EA system may be compared to;
- ii) Provides a new insight to EA education by making it more broad in scope and nature;
- iii) Extensive reference list for further reading makes it a useful resource;
- iv) International experience can help in providing guidelines to Japanese/Korean country context.

Fig. 2 Rating of chapters' relevance by S. Korean workshop participants



Language was considered to be one of the biggest barrier and there is a need to translate the book in relevant languages in order to make it accessible to a wider audience. It was also emphasised that the handbook would be truly beneficial to Korean and Japanese audiences if it could integrate case studies reflecting the contextual elements from the respective countries.

² In the year 1999, a total of twenty-nine Ministers signed the Bologna Declaration in the Italian city of Bologna. The signing of this declaration initiated the Bologna process which has played a crucial role in the recognition and integration of the international dimension of national higher education policy in the EU.

In a second part of the survey conducted, participants were asked to score each chapter of the handbook in terms of being highly relevant, relevant, somewhat relevant and not relevant (See annex). Overall, it was felt that there was scope to condense part 1 of the handbook and elaborate more on exercises related to EA practice and training.

References

Fischer TB (2007). *Theory and Practice of Strategic Environmental Assessment*, Earthscan, London.

Fischer TB; Gazzola P; Jha-Thakur U; Belcakova I; Aschemann R; (2008), *Environmental Assessment Lecturers' Handbook*, Road Bratislava Press

PENTA-Promotion of European Education on Environmental Assessment for Third Country Audience (2007), available at www.penta-eu.net

T_{wo}EA-M-Enhancing Attractiveness of Environmental Assessment and Management Higher Education, (2009), available at <http://www.twoeam-eu.net/>

Annex: Content of the Environmental Assessment Lecturers' Handbook

Preface and acknowledgements (**Handbook editors**)

Chapter 1: Introduction and summary (**Thomas Fischer**)

Part 1: EA related master programmes: experiences, current practice and prospects

Chapter 2: Internationalisation of master degree programmes - reflecting on the European Bologna process (**Urmila Jha-Thakur**)

Chapter 3: Reassessing the direction of postgraduate environmental assessment education: The Manchester experience 1996 - present (**Adam Barker and Carys Jones**)

Chapter 4: Teaching environmental assessment in the context of postgraduate environmental courses – challenges for environmental postgraduate education and five mindsets for sustainability (**Aleh Cherp**)

Chapter 5: Existing EA-related master degree programmes in the EU: an analysis – concepts, principles and key modules (**Paola Gazzola**)

Part 2: Designing a common curriculum for EA related master programmes

Chapter 6: Core Module 1 - Environmental Assessment (**Paola Gazzola and Thomas Fischer**)

Chapter 7: Core Module 2 - Principles for Environmental Integration (**Paola Gazzola**)

Chapter 8: Core Module 3 - Environmental Management Systems (**Urmila Jha-Thakur**)

Chapter 9: Core Module 4 – Ecological and Environmental Economics (**Urmila Jha-Thakur**)

Chapter 10: Core Module 5 - Organisational behaviour and public decision making in the EA context (**Paula Posas and Thomas Fischer**)

Part 3: Key sources for some key EA issues

3.1 Issues relating to context and effectiveness:

Chapter 11: The importance of considering the specific cultural and social context when designing environmental assessment systems (**Chiara Rosnati**)

Chapter 12: Environmental assessment effectiveness – What does it mean? (**Francois Retief**)

3.2 Issues relating to the EA process; procedural stages, methods, participation and follow-up

Chapter 13: Scoping in environmental assessment (**Thomas Fischer and John Phylip-Jones**)

Chapter 14: Relevant baseline data for use in SEA – examples from Germany (**Alfred Herberg**)

Chapter 15: Environmental assessment as a participatory decision-making support tool – rationale and methods of participation in EA (**Ralf Aschemann**)

Chapter 16: Report preparation and impact assessment methods and techniques (**Ingrid Belcakova**)

Chapter 17: Mitigation and compensation in environmental assessment (**Asha Rajvanshi**)

Chapter 18: The importance of EIA follow-up (**Jos Arts**)