Environmental impact assessments in the light of discussions on the influence of transport infrastructure on nature

Bogdan Jackowiak¹, Hans Bekker², Bjorn Iuell³, Grzegorz Mikusiński⁴, Halina Ratyńska⁵ & Maria Wojterska⁶

¹Department of Plant Taxonomy, Adam Mickiewicz University, 61-614 Poznań, Umultowska 89; bogjack@amu.edu. pl; ²Rijkswaterstaat, Road and Hydraulic Engineering Institute, Delft; ³Environmental Section, Road Development Department, Directorate of Public Roads, Norwegian Public Roads Administration; bjorn.iuell@vegvesen.no; ⁴Swedish University of Agricultural Sciences; grzegorz.mikusinski@nvb.slu.se; ⁵Institut of Biology and Environment Protection, Kazimierz Wielki University, 85-072 Bydgoszcz, Ossolińskich 12; halrat@wp.pl; ⁶Department of Plant Ecology and Environment Protection, Adam Mickiewicz University, 61-614 Poznań, Umultowska 89; mwzerios@amu.edu.pl

- 1. The International Scientific-Technical Conference in Poznań (Poland), entitled 'Influence of Transport Infrastructure on Nature' has provided yet another opportunity to ponder over the definition of EIAs, and their place in social life, economy and science. From the oral presentations and the following discussions it can be concluded that the EIA procedure has become a permanent component of the international legal system and is gaining increasing importance in the environmental policy of EU countries. EIA can be effective only if it has a reliable scientific basis, particularly in terms of the methods and achievements of natural sciences (mainly environmental sciences), economy (e.g. localization theory), engineering and technology (chiefly in respect of construction industry). To ensure a maximum objectivity of the EIA procedure, the guidelines and principles formulated on the basis of the assessment theory should be widely utilized.
- 2. It has been emphasized many times that EIA should be holistic, so it should take into account all the crucial components of the natural environment, as well as interactions between them. An analysis of the EIAs made so far shows that the dominant approach has been reductionist, focused on details, and considered the individual components of the natural environment asymmetrically. In the context of the subject of the conference, focused on biotic elements of the natural environment, it is noticeable that so far, assessments of the impact of economic enterprises on wildlife have developed more quickly than assessments of their impact on flora and vegetation. In the case of wildlife, some 'model species' can already be distinguished, as they are nearly always used in EIAs in many parts of the world.
- 3. The examples of EIAs presented during this conference showed many similarities in respect of the successive steps taken, general methodological assumptions, and even the applied research methods. This suggests that it is more and more likely to develop in the near future a universal methodological model that could be applied in various geographical, environmental and technical conditions. This would be an important step towards EIA reinforcement not only in practice, but also in science.
- 4. The EIA procedure usually includes the following steps: (*i*) identification of the major components of the natural environment, (*ii*) environmental valorization; (*iii*) assessment of the influence of the enterprise on the natural environment and its components; (*iv*) indication of mitigation measures that would minimize the negative effects of the construction works and the later operation of the enterprise; (*v*) monitoring of the effectiveness of the applied meas-

- ures. During the discussion, it was emphasized repeatedly that EIA effectiveness depends on the proper implementation of each of those steps. Special attention was drawn to the need for basing the whole procedure on a professionally performed inventory, and to the role of subsequent monitoring.
- 5. The essence of EIA is to preserve a balance between socioeconomic development and the natural values of the environment. This goal can be reached on condition that international specialists (from various branches of scientific research, economy, and administration) exchange information and cooperate with one another. During the discussion on the costs of habitat defragmentation programmes in West Europe, an appeal was made to representatives of the countries that are still rich in natural landscapes: 'Learn from our errors'. In this appeal, both environmental and economical reasons were taken into account. It has turned out that the costs of defragmentation of the already fragmented natural habitats are much higher than the costs of planned enterprises taking into account the need to preserve the continuity of natural habitats.
- 6. Conference participants were pleased with the fast development of EIAs and their increasing importance in many European countries, and emphasized the need to improve EIA quality continuously. Progress in this field will depend on the development of education of EIA specialists. Thus it is necessary not only to organize systematic training, but also to publish new handbooks, and add to academic curricula a more detailed introduction to EIA.