The Economic Commission for Europe (ECE) has made a number of recommendations to ECE governments for establishing EIA procedures.

Principles for the Implementation of Environmental Impact Assessment

It is recommended that:

1. Priority should be accorded to the implementation of EIA through legislation, which should:

(a) In the case of separate legislation, provide for linkage with other legislation which, *inter alia,* governs land-use planning and planning in different economic sectors, licensing and permit systems and environmental management;

(b) Provide for the analysis and evaluation of possible environmental impacts (including health impacts) of activities before a decision is taken, as well as in the construction and operation phases;

(c) Contain provisions to promote the integration of environmental considerations into planning and decision-making processes;

(d) Promote integrated environmental management in relation to sustainable economic development; and

(e) Allow for the necessary resources to be allocated to the EIA process.

2. Existing legislation and practices should be examined to ensure that EIA is fully integrated into decision-making, so that a comprehensive environmental management approach can be implemented.

3. EIA should, in principle, be applicable to a wide range of activities including urban development, agricultural and industrial development (including retrofitting into old technology) and energy generation and transportation, the development and operation of physical infrastructures, natural resources exploitation, treatment, storage and disposal of waste.

4. There should be more harmonisation of EIA practices, at the national and international levels to unify terminology, *inter alia* through the development of a list of terms, to facilitate mutual understanding and to enable the undertaking of EIA in a transboundary context.

5. In each country, an authority should be identified to introduce and oversee the administration of national EIA programmes.

6. An EIA process should provide for:

(a) A clearly defined application of the process to certain activities and to specific levels of decision-making;

(b) Scoping procedures;

(c) Procedures for independent review;

(d) Public participation opportunities;

(e) Identification of mitigation measures;

(f) A linkage with decision-making including a record of decision(s);

(g) Post-project analysis and monitoring; and

(h) Institutional and organizational requirements.

7. For the sake of effectiveness and the optimum allocation of financial and human resources, EIA should particularly be applied where anticipated activities are likely to cause significant environmental impacts, in particular those with a long-term or irreversible character. Mechanisms for identification should be used, such as the enumeration of activities subject to EIA (based on, *inter alia,* sensitive ecosystems, vulnerable resources, non-renewable resources, specific criteria and threshold levels, or combinations of these methods) or initial environmental evaluation procedures.

8. EIA legislation should apply to individual projects and could allow for application to regional development schemes and programmes as well as general policies and strategies.

9. Depending on the nature and degree of the assessed impacts, EIA should continue during the construction, operational and decommissioning phases of activities in order to:

(a) Monitor compliance with the agreed conditions set out in construction permits and operating licences;

(b) Review environmental impacts for the proper management of risks and uncertainties;

(c) Modify the activity or develop mitigation measures in case of unpredicted harmful effects on the environment;

(d) Verify past predictions in order to transfer this experience to future activities of the same type.

10. Procedural arrangements ('scoping') should be adopted to determine the issues to be examined, as well as to develop and to select reasonable alternatives to proposed activities.

11. Scoping processes should be undertaken early in EIA by involving and consulting all parties concerned in order to avoid unnecessary cost and delay, and to accommodate early on the conflicting interests of parties involved.

12. The EIA documentation should undergo an independent review to control the quality and adequacy of the information prior to the decision being made.

13. Review procedures should be defined in relevant legal provisions, regulations or other appropriate arrangements, and be undertaken by an interdisciplinary team with the relevant expertise, in order to assure the preparation of well-balanced and complete results, to enhance the acceptability of the outcome and to improve the management of uncertainties and risks in EIA.

14. EIA procedures should allow for the direct involvement of the affected public, individuals, groups and organizations early on in the EIA process, as they can make important contributions to the identification of objectives, impacts and alternatives.

15. Programmes should be developed as early as possible in the EIA process in order to inform the public of planned activities through direct notification and the use of mass media such as newspapers, television and radio.

16. Efforts should be increased to develop or improve:

(a) Integrated monitoring programmes;

(b) Methods and programmes for the collection, analysis, storage and timely dissemination of directly comparable data regarding environmental quality in order to provide an input to EIA.

17. In order to improve the efficiency of EIA and to obtain a better understanding of its cost-effectiveness, information should be collected to determine the benefits and costs of EIA as a tool for both planning and environmental protection as well as for the integration of environmental values into the decision-making process.

18. When applicable, the consideration of alternatives should take into account different activities, options in technology, process, operation, location, mitigation and compensation measures as well as production and consumption patterns.

19. Appropriate measures should be promoted that allow for and facilitate the assessment of environmental impacts from new technological developments in all economic sectors; to this effect regulations, guidelines and criteria should be developed in order to apply the principles of EIA to technological innovations.

20. EIA documentation should contain, as a minimum:

(a) The setting of the activity (purpose and need);

(b) Which authority(ies) is (are) required to act upon the documentation, and the nature of the decision(s);

(c) Description of the activity itself and reasonable alternatives to it, if appropriate, including the do-nothing alternative;

(d) The potential environmental impacts and their significance attributable to the activity and its alternatives as well as the socio-economic consequences of environmental change owing to the activity or its alternatives;

(e) The relevant environmental data used and, for reasons of clarity, an explicit indication of predictive methods and underlying assumptions made during the assessment procedure;

(f) The identification of gaps in knowledge and uncertainties which were encountered in compiling the required information;

(g) An outline of monitoring and management programmes and mitigation measures to keep environmental degradation at a minimum; and

(h) A non-technical summary including a visual presentation (maps, graphs, etc).

21. Special consideration should be given to the setting up or intensification of specific research programmes aimed at:

(a) Improving existing qualitative and quantitative methods for assessing the environmental impacts of proposed activities;

(b) A better understanding of cause-effect relationships and their role in integrated environmental management;

(c) Analysing and monitoring the efficient implementation of such decisions with the intention of minimising or preventing impacts on the environment (post-project analysis);

(d) The development of methods to stimulate creative approaches in the search for environmentally sound alternatives to planned activities, production and consumption patterns;

(e) The development of methodologies for the application of the principles of EIA at the macro-economic level. The results of the programmes listed above should be exchanged at the international level.

22. Education and training should be regarded as an important tool to improve the practical application and implementation of EIA:

(a) For managers (both proponents and competent authorities);

(b) For practitioners; and

(c) For students (at universities and other appropriate higher schools).

Managers and practitioners should be provided with additional training. For students, curricula should include the concept of the integrated approach of EIA. Governments should exchange information on planned EIA training courses.

23. Co-operation in the field of EIA in a transboundary context is necessary and should be developed and intensified among countries concerned, taking into account national sovereignty over natural resources, to enable:

(a) The provision of information, notification and consultation as early as possible in the EIA process and prior to decisions being taken on planned activities with potentially significant environmental effects on other countries;

(b) The exchange of relevant environmental data and information on the planned activities and their possible transboundary effects;

(c) Public participation in the affected areas based on the principles of reciprocity and non-discrimination;

(d) When appropriate, the provision of a mechanism for independent review which may involve a joint commission, joint monitoring and preparation of assessment documentation, implementation of mutually agreed mitigation measures and means to incorporate the views of the affected country(ies) into the decision-making process.

24. Governments should incorporate EIA provisions in existing and new bilateral or multilateral treaties or agreements with potential environmental implications.

(From ECE, 1991)

Criteria for choice of EIA process

Effectiveness criteria, involving the likelihood of the EIA procedures achieving their stated goals:

Information. The availability of a sufficient information base to allow effective design and implementation (impinges on all other criteria).

Dependability. The extent to which one can be sure that the EIA procedures will achieve the desired outcome or specified goal under existing conditions.

Timing. The time required for the EIA procedures to take effect, in relation to the time perceived available for redressing the problems.

Adaptability. The ability of the EIA procedures to be applied in the face of heterogeneity within one time period.

Flexibility. The degree to which the EIA procedures will continue to be effective, or will require modification, in the face of changing social or economic circumstances.

Cost. The gross demand on economic resources for implementation of the EIA procedures.

Efficiency. The EIA procedures that can realise the policy goal for the least possible cost. Efficiency is differentiated from cost by the consideration of the achievement of the policy goal, thus moving beyond simple expense.

Cross-sectoral influence. The potential for the EIA procedures to offer other benefits (economic efficiency, equity, human health, etc) aside from the achievement of the environmental policy goal. Conversely, the degree of surety that the EIA procedures do not entail a risk of disbenefits in such terms.

Implementation criteria, involving the likelihood of being able to implement the favoured EIA procedures in the relevant social and institutional operating environment.

Equity. The distributional implications; who bears what costs associated with the changes brought about by the application of the EIA procedures.

Political feasibility. The likelihood that the EIA procedures will be acceptable to major political/interest groups and the wider electorate.

Institutional feasibility. The ability of the existing of realistically envisaged institutional arrangements to implement the EIA procedures.

Monitoring. Whether monitoring the impact and use of the EIA procedures over time is feasible and/or affordable.

Enforcement/availability. Consequent on monitoring, whether adherence can be enforced if that is necessary and/or appropriate.

Communicability. Can the particular details of the EIA procedure, and the reasons for its use, be adequately communicated to those involved in its implementation or upon whom it will impact.

(Adapted from Dovers, 1995)