Rationale

An important milestone in the global effort to minimise environmental degradation caused by development was the institution of EA (then called Environmental Impact Assessment, or EIA) as a legally required component of project proposals, in accordance with recommendations made by the first UN Conference on the Environment, held in Stockholm in 1972. It was first launched in the United States, concurrent with the establishment of the USEPA. As it is now widely accepted that properly conducted EA contributes to the long-term sustainability of economic development, a continuously growing number of countries, including many in the developing world, are incorporating EA provisions into their planning legislation. The economic and environmental effectiveness of EA methods and practices is being subjected to international evaluation (e.g., IAIA/FEARO, Canada, 1994/95).

Although the attainment of the highest possible levels of health is (or should be) one of the major goals of economic development, the recognition of development-environment-health linkages has not been universally integrated into economic planning at all levels. While EA has evolved into a widely used management tool for reducing the environmental damage potential of development projects, plans and policies, its human health and safety component (HA) is still often neglected or implemented in insufficiently effective ways. It is estimated that between 90 % and 95 % of all EAs undertaken lack appropriate health and safety components and do not involve health expertise at any stage of the assessment process.

> *Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity* (World Health Organization, Constitution, 1947).

The universally accepted WHO definition of human health stresses the need to consider the interactions between the body and the physical and social environment. Indeed, healthy environments and healthy populations are largely interdependent. The "Rio Declaration" (United Nations Conference on Environment and Development (UNCED), 1992) reiterated this by stating that human health and well-being should be at the focus of our concerns for the global environment. However, the WHO Commission on Health and Environment in its report "Our Planet, Our Health" (WHO, 1992) and the tenth Commonwealth Health Ministers' Meeting (1992) were almost unanimous in pointing out that, despite widespread understanding of these interactions, human health was still being sacrificed world-wide to ill-directed economic development and unfair trade arrangements, leading to overconsumption of resources, pollution, resource depletion, poverty and overpopulation.

As the total cost of EA is generally well below 1 % of most overall project investments, the lack of attention given to human health and safety issues cannot be attributed to cost factors. Experience with some of the world's largest hydro-electric dams, irrigation schemes and chemical plants has shown that the ultimate cost of secondary corrective

and adaptive measures, disease control, medical care and compensation payments to victims of accidents (e.g., Bhopal) more than outweighs the modest investment needed for a properly integrated HA component in EA.

One major factor for not undertaking health damage impact studies has been the projection of high costs by the engineers/planners - application of health damage impact studies and provision for correcting the damage caused by development are seen to be costly. There has been a tendency to set up curative services to deal with the health problems created by a project instead of setting in place appropriate preventive strategies as an integral part of the original development. Some development projects have included 2 or 3% of project costs for health which, in practice, have been spent on curative services which became necessary as a result of preventive opportunities lost at the correct time.

A genuine difficulty in the cost-benefit approach to HA is that health damage prevented (i.e., which did not take place) or positive health outcomes (i.e., improved health and functioning without additional medical costs) resulting from its integration into EA are hard to quantify. Non-events are hard to count, and even harder to cost. Once a project is implemented, it is much easier to record the negative effects on health. There is, however, no doubt that the proper integration of HA into EA forestalls the costs of public enquiry, or legal costs, or the costs involved in the repair of damage done to public health, which would otherwise have to be made retrospectively. It certainly makes more economic sense than having to adopt "retrofitted legislation" once mistakes have been made and recognised.

Key Principles of Public Health
(Australian National Framework for HA)

- Human health and the environment are interdependent.
- Most changes to local or global environments are likely over time to affect human health.
- Human health is affected by social, psychological, economic, ecological and physical factors.
- Human health is a basic requirement for, and imperative of, ecologically sustainable development.
- Decision-makers have a responsibility to involve communities in decisions which affect their environment.
- Social justice is a key consideration in public health policy and ecologically sustainable development.
- Decisions should err on the side of caution when impacts on health and the environment are not clearly understood.

Despite current tendencies to include more and better EA legislation into sustainable development planning, legal measures alone do not help resolve the lack of health sector involvement in these processes. In some countries where EAs are accepted practice only because of legislation, proponents of projects will do little or nothing to extend health assessment beyond the strictly necessary, usually limiting it to toxicological aspects and safety provisions. There is often a fear that assessment of public health issues associated with social impact will militate against development because of the potential for "interminable delays" during the necessary assessment and consultation processes.

Improving EA tools by adding more health-related items (e.g., the inclusion of health concerns in checklists and matrices used in EA preparation for broad project categories), will fail if no concomitant effort is made to raise awareness and understanding among those responsible for using them. The process of EA should include active consideration of how a development project could actively promote health - health opportunity assessment. As it is, EA is all too often something of a mechanistic nature, i.e. primarily concerned with process steps to be taken, without much regard given to the complexities behind the issues dealt with in the EA. Furthermore, EA may fail in its intention to reduce the risks of development if its findings are not applied - for example, in Bhopal the original development was not near human settlement but subsequent illegal settlement brought people into its close proximity.

In summary, the underutilization of health expertise in EA is due to a complex set of interacting factors, including lack of awareness among key actors and poor intersectoral communication skills. People in positions of leadership in the health sector have a responsibility to reach out more assertively to other sectors (including environment, development and finance), with clearer messages on the inter-dependence of health and environment and the role good health assessment can play in improving the cost-effectiveness of development projects, plans and policies. Project proponents, planning authorities and the general public also need to have a clearer understanding of the merits of health assessment. There is an obvious need for the analysis of all skills required and the identification of target audiences to be addressed and the nature of materials to be used in the process. Teaching and learning materials in current use would need to be reviewed to determine their usefulness towards achieving fuller HA integration into EA, and to define gaps to be filled.

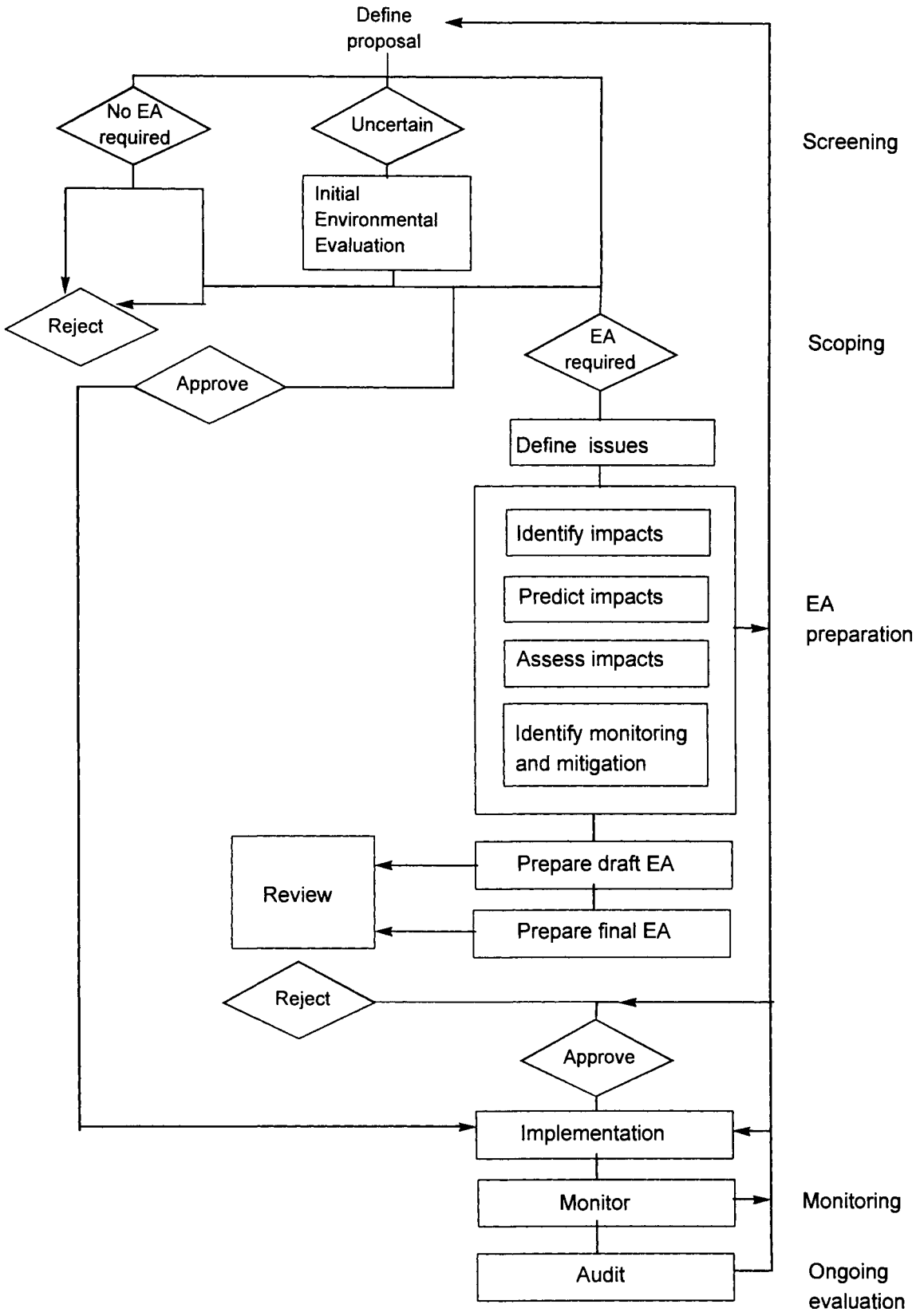

Figure 1 Flow diagram showing the main components of an Environmental Assessment (EA) system *adapted from P. Wathern*