Contributing Paper

Implementing World Commission on Dams Guidelines within an International Certification System

Tom Rotherham
International Institute for Sustainable Development, Switzerland

Prepared for Thematic Review V.4:
Regulation, Compliance and Implementation Options

For further information see http://www.dams.org/

TABLE OF CONTENTS

IMPLEMENTING WORLD COMMISSION ON DAMS (WCD) GUIDELINES WITH-IN AN INTERNATIONAL CERTIFICATION SYSTEM

1 Introduction

This paper has been prepared in the context of the World Commission on Dam (WCD) Thematic Review: Institutional and Governance Issues V.4 Regulation, Compliance and Implementation. It proposes two alternative international governance regimes that can be used as a vehicle for the WCD guidelines: an applied ISO 14001 standard, and a Stewardship Council approach. These proposed regimes can:

- help to establish a consistent and predictable regulatory framework for large dam initiatives;
- may provide incentives for companies to comply with the WCD guidelines;
- can facilitate implementation; and,
- can promote effective monitoring and stakeholder involvement.

The two approaches, although functionally similar in many ways, differ principally on the basis of the required instutional commitment by the WCD.

The WCD was established to do three things: First, to convene an international dialogue on Large Dams involving all stakeholders to identify common issues and concerns. Second, to work with stakeholders to draft a set of international guidelines that address these common problems. And third, to ensure that the guidelines developed promote responsible dam planning and management. The following discussion will address the third part of the WCD mission: implementing the guidelines. This analysis is timely because the design of the implementation vehicle may impose certain conditions on the final form of the guidelines and may help to structure the development of the guidelines.

Part one of this paper identifies constraints that should be addressed when designing an implementation mechanism. Important concerns include the need for flexibility, independent verification of compliance, institutional capacity building, and regular review. To be effective, international guidelines must satisfy these requirements.

Part two describes how a certification system can give dam operators an incentive to implement and comply with international guidelines. Both by providing a recognised and consistent framework, and by creating an information tool relevant to many stakeholders, a certification system can give dam operators a strong incentive to implement WCD guidelines. In addition, regular independent audits help to verify that compliance is in fact achieved.

Part three suggests two approaches to how an international certification system can be developed: through the International Organization for Standardization (ISO), or independently, building on the existing models of Stewardship Councils. The two approaches require different levels of institutional commitment on the part of the WCD.

Part four concludes with several recommendations, or “next steps”, that should be taken by the WCD.

2 Characteristics of Effective International Guidelines

In order to be effective, a set of international guidelines must reflect certain fundamental characteristics. In particular, they must be flexible, credible, promote capacity-building, and be reviewed regularly. These characteristics can be developed through careful design of the guidelines themselves, and reinforced by an appropriate implementation mechanism.

2.1 FLEXIBILITY

The international guidelines being developed by the WCD represent "state of the art" knowledge and incorporate "best practice" techniques. They are also being developed through an open and transparent process that has fostered concensus amongst many stakeholder groups (WCD Website). In essence, these guidelines provide a general baseline against which can be assessed the social responsibility and management effectiveness of all aspects of large dam planning, construction, operation and decommissioning. However, the guidelines cover only those elements of dam policy that have been agreed upon within the international WCD forum. These general guidelines should not be viewed as a panacea which will necessarily promote responsible dam initiatives in all situtations.

Unique national and site-specific circumstances will always require a broader scope and greater depth of analysis than has been possible within the WCD process. Differences in economic and cultural characteristics, or environmental carrying capacity, give rise to different environmental and social policy preferences. Different preferences require different priority-setting, and both can vary between nations or even between sites. As a result, international guidelines, especially those that traditionally fall within the boundaries of national sovereignty, must remain flexible. This concept is supported by Principle 11 of the Rio Declaration:

> "Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries." (quoted in OECD 1997, p.17)

In effect, the development of a set of international guidelines that establishes fixed policy goals or defined performance requirements is to be avoided. The world is not homogenous: the WCD guidelines must be a flexible, heterogeneous tool, addressing policy but not specifying performance requirements.

This, of course, is not to say that performance requirements cannot play an integral part in the implementation mechanism. Indeed, as will be discussed, the credibility of the system requires some focus on performance. However, the development of performance criteria must address the theory of subsidiarity: authority must be assigned at that level where action will be the most effective (Trachtman 1992). If criteria are not negotiated at the appropriate level they will fail to reflect important differences, and may be inappropriate, or ineffective. The refinement and definition of policy goals into specific performance requirements must take place at the appropriate level. In some cases this can be done at the national level; in others, this will require site-specific negotiations and analysis. An effective distribution vehicle for the WCD guidelines must integrate this kind of flexibility into its framework.

2.2 CREDIBILITY

The WCD guidelines are being developed to satisfy a variety of interest groups, each with their own particular interests and needs. Communities want to know if their interests are being considered; governments need to ensure the success of energy generation or irrigation strategies; dam operators want a consistent and predictable framework of requirements on which to base business decisions; insurance companies need a tool to assess liability risk; banks want a tool to predict project feasibility. To some degree, whatever is produced by the WCD process will be used by some of these groups. Non-governmental organisations (NGOs) are likely to use the WCD guidelines as a benchmark against which to judge the operation of dams and as a basis for advocacy . Similarily, some governments may require compliance with the guidelines as a permitting condition.

In order to be truly effective, the WCD guidelines must be useful to all of these interest groups and must therefore identify and address their particular needs. The development of the guidelines and of the implementation mechanism should involve both public and private lenders and insurers. These groups have a major influence over the planning and management process of large dams. A well designed implementation mechanism will enable all stakeholder groups to make use of them as well. Indeed, the WCD guidelines must be implemented in such a way that they can be used by all stakeholders if they are to have maximum benefit.

In order to be useful to all of these groups, the WCD guidelines must be developed by a credible body, and companies must be able to credibly demonstrate their compliance with them. With its participatory and inclusive process, the WCD certainly fulfils the first criteria. However, credibility also depends on being able to assess to what extent the guidelines are being followed, or complied with. This requires verification. Moreover, this often requires independent verification, or third-party certification. In the same way that self-declarations of environmental quality do not convince many consumers (EPA 1998), self-declaration to WCD guidelines may not be sufficiently credible for some community groups or financial institutions. The implementation mechanism for WCD guidelines must be amenable, when required, to independent third-party verification.

2.3 CAPACITY BUILDING

In order for a dam operator to adapt management practices to comply with a set of guidelines it must have a certain amount of institutional capacity. New techniques and skills may be required of employees; new technologies and processes may be required by companies. Managing authorites that face a new set of objectives may not have the experience or tools needed to achieve them. Imposing of a set of requirements without providing the tools needed to meet them is an ineffective way of promoting responsible dam planning and management. If possible, the implementation mechanism should identify training needs and ensure that capacity is developed in those areas that may not be tradionally of concern to dam managers.

The successful use of WCD guidelines will require three activities that dam operators may not have sufficient expertise or experience: involving stakeholders, monitoring and evaluation, and the assessment of new training needs. Without effective stakeholder participation, company's may misjudge or remain ignorant of a community's concerns, creating avoidable conflict. Unless the operator efficiently monitors the impacts of its activities it will be unaware of the existence or degree of certain impacts, and may waste valuable resources on poor practice. Operators that do not engage in training-needs assessment may not have adequate technical capacity or skills to mitigate impacts, especially in the case of emergency preparedness.

An implementation mechanism that facilitates insitutional capacity-building will be a much more effective tool that one that does not. As will be discussed in part three, it is possible to provide

the tools needed to deal with new requirements within the guideline distribution mechanism itself.

2.4 REGULAR REVIEW

As discussed above, it is important that international guidelines respect national and site-specific differences by presenting policy- and not performance-based requirements. However, just as the work of the WCD must reflect spatial differences, so too must it incorporate inter-generational concerns. For this reason, it is important that the guidelines evolve.

As a society's preferences change, new technologies are developed or alternatives to dams emerge, the definition of best practice – both from an engineering and a social responsibility perspective – must also be updated. Unless changing conditions are addressed, the existing guidelines will become progressively less relevant. The WCD guidelines that are presently being developed address the issue of Large Dams in an international context (i.e. in a multitude of places), but at only one point in time. International guidelines must be malleable, reactive, and changeable if they are to continue to represent a consensus vision of dams.

In order to evolve, the WCD guidelines must be regularly reviewed by an informed and representative coalition. The groundwork that has been done under the WCD – initiating dialogue, establishing terms of reference, developing a guidelines framework – although extremely important to the progressive understanding and mediation of dam-related concerns, is only the first step in an ongoing process. A fixed schedule of review will ensure that the guidelines adapt to changing circumstances so that they continue to represent society's preferences for effective and responsible dam planning and management.

If effective international guidelines require continual and long-term revision – and if the WCD is indeed to devolve in 2001 – a substitute institutional structure will be required to continue the work begun under the WCD. As will be discussed in part three, this can be done either through the development of a new institution, or through collaboration with an existing one.

2.5 SUMMARY

In order to fulfil its mandate, the WCD must come up with a strategy to ensure that the guidelines that it develops will be used and will continue to be used by as many stakeholders as possible. In order to do this, it must come up with a platform for its guidelines that ensures that they remain relevant, and reflects the following characteristics:

- The guidelines must be policy-oriented, leaving the definition of specific performance requirements to be carried out at the appropriate level;
- The guidelines must be credible, and therefore must incorporate independent third-party verification, or certification, when required;
- The guidelines must help operators perform their new activities, and must therefore help to build institutional capacity; and,
- The guidelines must evolve to reflect changing circumstances and preferences, and must therefore be open to a fixed schedule of review.

The next section of this paper will consider how a "perfect" implementation mechanism might promote the use of the WCD guidelines.

3 The Role of an Effective Implementation Mechanism

Several factors will determine the rate of implementation and the degree of compliance with the guidelines developed by the WCD. Factors which affect implementation and the degree of compliance include, among other things:

- enforceable sanctions;
- compelling incentives;
- a conducive policy and institutional framework;
- institutional capacity;
- efficient monitoring systems, and,
- well defined stakeholder roles and responsibilities.

As discussed in the previous section, the design characteristics of an implementation mechanism may influence many of these factors. In particular, an international certification system that incorporates the WCD guidelines

- can provide a consistent framework of regulations that is adaptable to site-specific characteristics;
- will encourage monitoring and evaluation; may help convey credible information on certain management operations; and,
- will evolve to accommodate changing knowledge and preferences.

What has yet to be discussed is how such a system can also create strong incentives for companies to implement and comply with WCD guidelines.

A certification system is basically a mechanism to verify and communicate information against a baseline, or standard. Whether for financial services or consumer goods, all certification systems need to be based on credible, consistent and relevant standards. In most instances, standards are developed with the participation of the stakeholders most interested in the information to be provided. If successful, the information provided by a certification system will influence the behaviour of the stakeholders to which it is targeted.

The WCD process has as one of its main outputs a set of international guidelines. These guidelines are being developed with a wide stakeholder group and will be endorsed by a respected international institution. In effect, the work of the WCD can establish an international benchmark, or standard, for responsible dams. The guidelines produced will not cover all aspects of dam planning and operation nor should they specify performance requirements. They may establish, nonetheless, a standard for the aspects of dam policy and management that can be agreed at an international level. It follows then, that the stakeholders that have been involved in the development of this standard will have use for the information provided by it. If this information is credible it will also provide dam operators with incentives to implement and comply with the WCD guidelines.

3.1 DAM OPERATORS

Perhaps the most useful aspect of the WCD guidelines from the perspective of dam operators will be the consistency and predictability that it provides to their planning process. Business strategies cannot succeed unless the principles and assumptions on which they are made are correct. The more uncertain is a business plan, the less profitable it is likely to be. It has been reported that the uncertainties regarding the regulatory requirements that dam operators must face is one reason why costs often exceed expectations (Steiner, IUCN Hq briefing meeting).

A certification system that clearly defines rights and responsibilities for all parties in advance and that enables management authorities to demonstrate compliance with stakeholder expectations is a valuable tool for dam operators. Negotiations between diverse stakeholders will lead to an

open discussion of possible impacts and likely causes. Dam operators will learn about stkeholders' priorities and concerns; stakeholders will learn about the contraints and limitations facing dam operators, including factors that restrict its ability to control social and environmental impacts.

It is important that stakeholders know how the dam authority is affected and constrained by decisions taken in government agencies, or other circles. For example, z decision taken by a government to reduce the price of electricity being produced by a hydro-electric plant may reduce local incomes and limit the availability of funds used to mitigate environmental or social impacts. A company should only be held responsible for impacts arising from activities over which it has control. By increasing the flow of information to and from stakeholders, an international certification process that involves stakeholder participation can help to reduce stakeholder opposition to a project, and to a dam authority.

Compliance with pre-established guidelines also demonstrates due dilligence and can help a dam operator avoid negative public reaction in the case of accidents or unforeseen impacts. In some instances, dam operators may be willing to adopt a consistent voluntary framework that improves the accuracy of planning and forecasting even if the requirements are more stringent than existing regulatory regimes.

Along with this basic benefit, a certification system can also give dam operators incentives to implement WCD guidelines by influencing the behaviour of other stakeholders.

3.2 FINANCIAL COMMUNITY*

There are a variety of ways in which the financial community is likely to use the information provided by a dam management certification system. In order to appreciate how, it is important to acknowledge their main interests: banks and investors are concerned with the profitability of an enterprise compared to expected costs; insurance companies are interested in the efficient valuation of insurance premiums, and therefore, in the accurate assessment of risk.

These three stakeholders are, in effect, all concerned about the probability of unanticipated costs. There are two main ways that a dam management certification system can reduce the probability of unexpected costs: by reducing liability, and by limiting delays.

3.2.1 Liability

As knowledge and concern about the environmental and social impacts of industrial activity have grown, so too have the number of regulations that companies must face. Many managers now recognise that compliance with this complex assortment of regulations requires an efficient management system (US-AEP 1997). International certification systems that establish clear registers of requirements and that require regular monitoring can help a company assess and comply with its regulatory requirements. This, in turn, suggests a high degree of awareness and control over those activities that may result in fines or liability suits.

---

* This section is based on information from the International Expert Seminar: Continuity, Credibility and Comparability: Key challenges for corporate environmental performance measurement and communication. Eze, France; June 13-16, 1998. Arranged by IIIEE and VTT in co-operation with the UNEP Cleaner Production Program and the European Environment Agency.

An important aspect in the resolution of liability cases is the demonstration of due diligence. Companies that have taken reasonable steps to limit the impacts of their operations, including monitoring and evaluation, are less likely to suffer large liability fines in the case of accidents. Certification to an internationally endorsed management standard indicates a responsible degree of care in the planning and operation of a dam project. Some goverments, for example, have reduced regulatory and permitting requirements for companies that have certified environmental management systems in place, or that subscribe to similar voluntary initiatives (KERR ET AL. 1998).

3.2.2 Public opinion

By obtaining independent certification to a set of internationally endorsed guidelines, a dam operator can demonstrate responsible management and strengthen public opinion. In addition, a transparent and participatory management process can better identify and address stakeholder's concerns. Demonstrating due dilligence and identifying stakeholder concerns can reduce the likelihood that negative public opinion will delay dam projects. The importance of financing schedules to dam profitability is a major concern for the managing authority and the financial community alike.

Two main sources of unanticipated costs – liability and project delay – can be mitigated by certification to a credible WCD management standard. Managing authorities that obtain certification can expect to benefit from lower insurance premiums, preferential loans, and better access to capital. These benefits are strong incentives for companies to implement and comply with the WCD guidelines in order to obtain certification.

3.3 GOVERNMENTS

Governments have an interest in making sure that dam projects are effectively planned and managed. Be they for energy generation, irrigation or flood management, large dam projects have economic impacts and are an important element of national strategies. Especially in the case of energy generation, a dam project represents not only an investment of funds, but also a commitment of time towards a national objective. A poorly planned or managed dam project that is cancelled after five years wastes money, but perhaps as importantly, also delays the achievement of national objectives.

The start-up costs associated with large dams are often too expensive and the risks too large for their funding to be provided exclusively by private sources. Because of their strategic importance to a country or sub-region, governments are therefore frequently involved in dam financing, particularily in the intitial stages of operation. This can be through soft credit, co-financing, or in some cases governments may fund the capital-intensive constuction with the intention of later privatising the management of day-to-day operations. In order to protect their investments, governments may impose strict permitting and licensing requirements.

A dam management certification system can be of use to governments in a variety of ways. Because dam-related permits and licenses are issued by their agencies, governments cannot disassociate themselves completely in the event of harmful impacts and negative public opinion. A certification system that helps to improve management and limit negative public opinion will help to avoid delays in achieving national objectives and will reduce the likelihood of negative public opinion directed towards government agencies.

The flexibility of an international certification system's specifications enables local and national regulations to be intergrated into the requirements. In addition, the independent monitoring and evaluation required in a third-party certification system may obviate the need for certain

monitoring activities on the part of the regulatory body (Roht-Arriaza 1997; OECD 1998). Because audits are paid for by the managing authority, the costs of monitoring regulatory compliance can be internalised in the costs of operating the dam. The certification framework will enable monitoring costs to be written into dam proposals, reducing the financial burden on government regulatory agencies.

A managing authority that assumes responsibility for the operation of a dam that has been built by a different party will to some extent also assume responsibility for the quality of the previous management. If a supporting wall collapses because it was not built according to a specified code, the new manager will face some of the related costs, even if only in terms of delays, interuption of services, or negative public opinion. In the same way, if the planning and contruction was not done in an open and participatory fashion, the new manager will have to deal with community protests and any subsequent delays that may result. In instances where different management authorities are responsible for different phases of the dam project – be they all private or a mix of public-private – quality-assurances from the previous management are needed. Certification to an international WCD management standard of each stage of a dam initiative will help to provide this assurance, and will facilitate the involvement of specialised actors in each subsequent phase of the operation.

Governments, then, can benefit from a WCD certification system in a variety of ways. Certification can

- help reduce delays in achieving domestic economic strategies;
- reduce government exposure to negative public opinion;
- reduce the financial burden of monitoring compliance with regulations; and
- facilitate the involvement of specialised companies in different phases of the project.

In return for these benefits, governments can reward operators that comply with a WCD standard that incorporates national or local regulations. Ease of permitting requirements, reduction in inspection schedules, and preferred contractual conditions are some of the possible benefits that certified companies can obtain.

3.4 COMMUNITY GROUPS

The economic, cultural and environmental differences that exist between countries limit both the scope and depth of international guidelines. International guidelines cannot address adequately all concerns of all stakeholders. As discussed, the WCD guidelines must be flexible policy instruments which allow performance specifications to be refined at the appropriate level. For this reason, it is not enough that the WCD process has established a forum in which community groups have participated in the development of international guidelines. The WCD must also ensure that stakeholders are involved in the interpretation of these general guidelines at the appropriate level. The guidelines must, therefore, be implemented in such a way that supports continued stakeholder involvement during national- and site-specific management planning processes.

One of the characteristics common to all international certification systems is that they require stakeholder involvement. Both the ISO 14001-approach and the Stewardship Councils require companies to solicit and address community feedback throughout the development of their management plans (ISO 14001:1996, clause 4.4.3; FSC Website). In addition, the Stewardship Council approach establishes national committees that define concerns and specify requirements at the national level (FSC Website).

There are two particular benefits of a certification system that facilitates ongoing stakeholder participation: there is an obvious benefit to community groups; but there is also a benefit to dam operators.

3.4.1 Benefits to stakeholders

A company seeking certification to a WCD-sponsored management standard will have to establish a forum through which stakeholders can influence decisions that may affect them. By institutionalising this requirement, a dam certification system will continue to empower concerned citizens around the world. Along with providing a forum in which to formally air their concerns, a fixed schedule for involvement will also help community groups to better organise and present their cases. Without knowing when meetings will be held, which issues will be discussed, and how their concerns are being integrated into management plans, community groups cannot be effective advocates. Management certification systems which integrate stakeholders into decision-making processes can help to increase the effectiveness of their involvement.

3.4.2 Benefits to dam authorities

The institutionalisation of stakeholder participation in management planning will also benefit dam operators. As mentioned above, a certification system protects a company's right to be held resonsible only for those impacts over which it has control. Similarily, the obligation that dam operators provide a forum for stakeholder involvement brings with it a concomitant right: that a certified dam operator be held accountable primarily for those (unregulated) impacts identified in the stakeholder-involvement process. A transparent and inclusive management process increases management effectiveness by promoting consistency and predictability. If community groups can expect to be formally and consistently involved in management planning process, so too should companies expect to be judged primarily on the degree to which they succeed in addressing the issues that have been formally identified. Indeed, a formal process will give companies a record of stakeholder priorities and concerns can be used to support claims of responsible management and due diligence. It is important to acknowledge that a management certification system that supports stakeholder participation will also raise the stakes of their involvement.

3.5 SUMMARY

A recognised set of international guidelines can provide a consistent and predictable regulatory framework on which dam initiatives can be developed. This in itself is likely to give dam operators an incentive to adopt and promote the WCD guidelines. However, if the guidelines are implemented through an international certification system, certification to the guidelines can be used by a variety of stakeholders as a credible indication of responsible dam management. The information that is communicated by a certification system can influence a variety of stakeholders – from community groups and governments to the financial community.

Each of these groups can provide various incentives for dam operators to implement and comply with WCD guidelines. Certified "responsible" firms may have better access to credit and fewer financing conditions; they may also qualify for preferential insurance premiums; governments may require certification for licensing and permitting, and may decrease monitoring and regulatory conditions in light of certificaiton. As well, management certification systems can help companies demonstrate due dilligence and reduce their exposure to negative public opinion.

It is clear that a WCD endorsed dam management certification system can promote implementation and compliance with guidelines for responsible dam management. The next section will look at two different ways in which an international certification system can be developed.

4 Developing an International Dam Management Certification System

The first two parts of this paper have identified some of the characteristics needed for international guidelines to be effective. It has considered issues relating to the development of the guidelines themselves, as well as issues related to the development of the mechanism through which they can be implemented. The conclusion drawn thusfar is that an international management certification system – based on the WCD guidelines and ammenable to independent third-party certification – can provide incentives for dam operators to implement the WCD guidelines, and can also assess whether they are being complied with. This section identifies two ways in which this can be done.

As discussed earlier in the paper, all management certification systems compare a company's management against a baseline, or standard. A credible standard allows a single company to be judged against accepted norms, and therefore also enables comparisons between companies. By developing a set of guidelines, arrived at through concensus between a broad and international stakeholder group, the WCD is creating a *de facto* international standard for responsible dam management. As long as a fully representative stakeholder group is involved in its development – including both public and private lenders and insurers – the standard that the WCD develops will be a useful tool. There are two principle ways in which this tool can be distributed.

4.1 THE INTERNATIONAL ORGANISATION FOR STANDARDISATION (ISO)

4.1.1 Background

The International Organization for Standardization (ISO) is a non-governmental organisation established in 1947. The mission of ISO is to promote the development of standardisation and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing co-operation in the spheres of intellectual, scientific, technological and economic activity (ISO Online).

Since its creation, ISO has published some 12,000 international standards and, together with the International Electrotechnical Commission (IEC), has published some 85% of all international standards (UNIDO 1991). Both the World Trade Organisation (WTO) and the European Commission (EC) recognise ISO as a competent body for setting international standards that may later be used as the basis for legislation (Hauselmann 1996). As such, ISO is arguably the most representative and influential standard-setting organisation in the world.

ISO standards are voluntary. The need for a particular standard is identified by ISO members, and the details are worked out between them on the basis of consensus. There is no compulsion on industry to adopt the standard once published (Financial Times 1994). However, although ISO standards are voluntary, they are often made mandatory by member countries or, as a matter of protocol, become required as commercial standards (Bell & Connaughton 1993).

The technical work of ISO is highly decentralised, carried out in a hierarchy of some 2,850 technical committees, subcommittees and working groups involving roughly 30,000 experts each year (Financial Times 1994). Many of the most influential national standard-setting bodies that make up ISO are industry-led, and most of the volunteers that draft standards within ISO's technical committees are from industry groups (Krut & Gleckman 1998).

An International Standard represents an agreement between the member bodies of ISO. International Standards are developed by ISO technical committees (TC) and subcommittees (SC) through a six step process: (ISO/IEC 1996)

4.1.2 Stage 1: Proposal stage

Proposals for new areas of work can be made by a national body; the secretariat of an existing technical committee or subcommittee; an organisation in liaison; the Technical Management Board (TMB) or one of its advisory groups; and the Chief Executive Officer. It is up to the ISO Secretariat's TMB to decide whether a new field of work would be of value to international standardisation. If so, the TMB will establish an ISO Technical Committee (TC), chaired and funded by a national body, to undertake the work. The TMB provides a terms of reference and general co-ordination support to the TC; the drafting of the standard is left almost entirely up to the TC.

4.1.3 Stage 2: Preparatory stage

A TC is a group of volunteer experts who participate in the drafting of an international standard. Work undertaken in the TC is largely independent of the ISO Secretariat. If the TC feels that it is required, it may establish Sub-committees to undertake particular aspects of its terms of reference.

All ISO member organisations can choose to participate in the work of a TC. However, they must declare under which of two member categories they wish to be involved. **P-members** participate actively in the work, with an obligation to vote on all questions formally submitted for voting, on enquiry drafts and Final Draft International Standards, and, whenever possible, to participate in meetings. **O-members** follow the work as an observer, and therefore receive committee documents and have the right to submit comments and to attend meetings. All national bodies, irrespective of their status within a technical committee or subcommittee, have the right to vote on committee drafts and on Final Draft International Standards. Other organisations to whom the standard may be of interest may apply to participate as non-voting **liaison members**.

Once the TC/SC has successfully negotiated a working draft, this first committee draft is registered by the ISO Central Secretariat.

4.1.4 Stage 3: Committee stage

The committee draft is distributed by the ISO Secretariat for comments by the P-members of the TC/SC. Successive committee drafts may be considered until consensus is reached on the technical content. Once consensus has been attained, the text is finalised for submission as a draft International Standard (DIS).

Consensus is defined as: "General agreement, characterised by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments. NOTE - Consensus need not imply unanimity." (ISO/IEC 1996)

4.1.5 Stage 4: Inquiry stage

The draft International Standard (DIS) is circulated to all ISO member bodies by the ISO Central Secretariat for voting and comment within a period of five months. It is approved for submission as a final draft International Standard (FDIS) if a two-thirds majority of the P-members of the TC/SC are in favour and not more than one-quarter of all members votes are negative. If the approval criteria are not met, the text is returned to the originating TC/SC for further study, and a revised document will again be circulated for voting and comment as a draft International Standard.

4.1.6 Stage 5: Approval stage

The final draft International Standard (FDIS) is circulated to all ISO member bodies by the ISO Central Secretariat for a final Yes/No vote within a period of two months. If technical comments are received during this period, they are registered for consideration during a future revision of the International Standard. The text is approved as an International Standard if a two-thirds majority of the P-members of the TC/SC are in favour, and not more than one-quarter of all members votes are negative. If these approval criteria are not met, the standard is referred back to the originating TC/SC for reconsideration in the light of the technical reasons submitted in support of the negative votes received.

4.1.7 Stage 6: Publication stage

Once a final draft International Standard has been approved, only minor editorial changes, if and where necessary, are introduced into the final text. The final text is sent to the ISO Central Secretariat which publishes the International Standard.

4.1.8 Review of International Standards

All International Standards are reviewed at least once every five years by the responsible TCs/SCs. A majority of the voting members of the TC/SC decides whether an International Standard should be confirmed, revised or withdrawn.

4.2 THE ISO 9000/ISO 14001 APPROACH

The ISO 9000 Quality Management System (QMS) standard and ISO 14001 Environmental Management System (EMS) standard take a management system approach to achieving specific objectives. In the case of ISO 9000, the objective is enhanced product quality; for ISO 14001, it is enhanced environmental quality. In contrast to performance-based controls that establish specific requirements, the ISO approach focuses on the process by which organisational policies and objectives are established and achieved. The rationale behind the approach is based on three general assumptions:

1. effective policies will be developed and achieved within the context of effective management systems;
2. by exploiting common characteristics, the same management system can help any organisation in any industry to achieve designated objectives and targets on a consistent basis; and,
3. an effective management system must be flexible enough to accommodate characteristics specific to any organisation to which it is applied.

Since it was published in 1986, some 220,000 companies have obtained ISO 9000 certification. Over 7000 companies have been certified to the ISO 14001 standard since it was published in 1996 (ISO 1998). Both standards are based on the same management system approach. To avoid repetition, this paper will focus on the ISO 14001 standard.

4.2.1 The ISO 14001 Environmental Management System (EMS) Standard

The ISO 14001 standard establishes a framework of basic requirements for the design of an effective and responsible environmental management system. Although companies can self-declare their compliance with the standard, it is also amenable to independent third-party certification. Its requirements include: the development of an environmental policy; the implementation of a management system based on the concept of "plan-do-check-act"; and a commitment to continual improvement of the management system. No specific performance requirements are included in the standard. This fact is clearly stated in the introduction to the standard:

"It should be noted that this International Standard does not establish absolute requirements for environmental performance beyond commitment, in the policy, to compliance with applicable legislation and regulations and to continual improvement". (ISO 14001:1996, Introduction)

Instead, the ISO system incorporates a general formula by which performance levels appropriate to each individual site can be established and achieved (See box). Thus, two organisations carrying out similar activities but having different environmental performance may both comply with its requirements.

The 14001 EMS approach can be summarised in eight steps:

1. a commitment by top management to define the organisation's environmental policy and implement the EMS;
2. the establishment of a procedure by which all aspects of the organisation's activities which have, or can be expected to have, environmental impact are identified and documented;
3. the establishment of an effective procedure by which all relevant legal and regulatory requirements are identified, and a commitment to comply with them; this also involves a commitment to comply with any non-regulatory guidelines to which the organisation voluntarily subscribes (e.g. policies and objectives stated by an industry association. An example of this could be the guidelines developed by the WCD);
4. the identification of environmental objectives and targets, quantified where practicable, which effectively address each of the following: the overall environmental policy, the organisation's environmental impacts, and the organisation's legal and regulatory requirements;
5. the development of a procedure to monitor performance against the objectives and targets, and to channel this information back into the EMS;
6. creation of a workplan (subject to financial constraints) through which all objectives and targets are to be achieved; this workplan may consider changes in production processes, product design and services provided, employee training, communication of results, evaluation of performance indicators and documentation of the above;
7. a regular management review which addresses the possible need for changes to policy, objectives and other elements of the environmental management system, in light of EMS audit results, changing circumstances and the commitment to continual improvement; including also, scheduled audits of the entire management system;
8. a commitment to continual improvement and the prevention of pollution.

(summarised from ISO 14001:1996, clause 4)

The ISO 14001 standard is a generic standard which is intended to be applicable to any sized organisation in any sector. It does not refer to relevant international guidelines or agreements that may exist. However, in response to a demand from the forest industry, ISO has published a technical report on the application of ISO 14001 to this sector (ISO TR 14061:1998). This document includes references to existing international and national fora and also identifies specific sources of environmental guidance. At the time of its development, there was no framework within ISO which would enable more specific guidance and requirements to be included into the Forestry Technical Report. Therefore, it does not include principles and criteria which must be followed, such as would be required within a WCD certification programme.

However, in recent months ISO has established a new type of document to help meet the needs of different industrial sectors, as well as a new ISO liaison member Category 'D' for industry consortia. The Technical Specification document may be used to adapt ISO standards to the requirements of specific industrial sectors. These technical specifications must be reviewed every

three years and, at the end of the second review, must either be withdrawn or revised to become a full ISO standard (ISO News 1999). Automobile companies have already worked with the ISO technical committee in charge of the ISO 9000 standard to develop a document which outlines particular requirements for the automotive sector. Because ISO is in the process of harmonising ISO 9000 with ISO 14001, any structural change in one will have to be mirrored by changes in the other. This may permit industry consortia to develop technical specifications relating to the ISO 14001 standard as well.

Although it would not be possible for the WCD to develop an ISO 14001-based sector-specific standard at the moment, it may be possible to develop a technical specification document which integrates the WCD guidelines. This technical specification would have to be reviewed every three years; after six years (two cycles of review) it would qualify to become a full ISO standard. Even while it remains a technical specification document, auditors could refer to the guidelines it contains when assessing the quality of a dam operators management system against the ISO 14001 standard.

4.2.2 Benefits of the ISO 14001 approach

There are a number of benefits associated with the ISO-based apporach. These involve the benefits of

- working with a strong institutional partner;
- access to funding for the development of the standard;
- implementing the guidelines through a management framework that companies are familiar with;
- assessing training needs and developing training programmes; and,
- ensuring that the guidelines are regularly reviewed.

A strong institutional partner

Developing an international certification system through ISO would give the WCD access to the strong institutional components that make up ISO. In particular, the vast network of national standard bodies and the well defined standard-drafting procedures will obviate the need for WCD to establish its own consultation and distribution networks. In many cases, national standard bodies have participation mechanisms that enable national stakeholders to be involved in the international process. As well, the final standard can be easily distributed worldwide through the over 126 national member bodies of ISO.

Financial support

Second, the development of an international dam certification system through ISO would reduce the fund-raising pressure on the WCD. If ISO agrees to develop a standard, the drafting process is managed and funded by one or more national standard bodies. Although these bodies do not have a particular abundance of funds, they do have close links with and access to industry associations and relevant government departments. These links give national standard bodies access to public and private sources of funds that may not be readily available to the WCD.

Private sector familiarity
Third, using the ISO-approach will help companies to implement the WCD guidelines, and may increase their credibility. Many companies are already familiar with ISO management system approach. As mentioned, over 220,000 companies have been certified to the ISO 9000 Quality Management System standard. Indeed, in some sectors it is considered a requirement for market access (Krut & Gleckman 1998). Incorporating the WCD guidelines into a management framework that companies are already familiar with will facilitate the implementation and compliance with their specifications. Also, developing a WCD management standard through ISO – an institution that companies are familiar with – will increase the credibility of the standard within the private sector.

Capacity building
Clause 4.4.2 of the ISO 14001 standard requires organisations to identify training needs, to require all personnel to acquire relevant training, and to ensure that employees are aware of potential impact of their activities. In this way, the ISO 14001 standard can help dam operators to develop the institutional capaciy needed to comply with the requirements of the WCD guidelines.

Evolution of the standard
Fifth, as an ISO standard, the WCD certification system will be continually reviewed. Not only are national standard bodies responsible for the development of standards, so too must they review and update the standards at least every five years. The review process is open to all ISO national members, as well as to other organisations that demonstrate an interest in the standard. This fixed review and revision schedule will ensure that the WCD standard continues to evolve and will remain relevant to the majority of stakeholders.

* also, the WCD would pioneer the development of sector-specific technical specifications and standards under TC 207 and ISO 14001.

5 The Stewardship Council Approach

Stewardship Councils are the second main approach to international management certification systems. They establish a standard for sector-specific environmental and social policy through a system of Principles and Criteria. Although companies must comply with these Principles and Criteria, a degree of flexibility is incorporated so that the system can accommodate national and sub-regional characteristics. To date, Stewardship Councils have been established for two industry sectors: The Forest Stewardship Council (FSC) for forest industries; and for fisheries, the Marine Stewardship Council (MSC). The following information on the FSC is taken from the FSC website.

5.1 BACKGROUND

The Forest Stewardship Council (FSC) is an international non-profit organisation founded in 1993. It is an association of Members consisting of a diverse group of representatives — membership is open to all who are involved in forestry or forest products and share FSC's aims and objectives. The FSC has introduced an international labelling scheme for forest products. All forest products carrying the FSC logo have been independently certified as coming from forests that meet the FSC Principles and Criteria of Forest Stewardship.

FSC also supports the development of national and local standards that implement the international Principles & Criteria of Forest Stewardship at the local level. FSC has developed Guidelines for developing regional certification standards to guide working groups in this process.

The FSC has developed procedures and standards to evaluate which certification bodies can provide an independent and competent forest evaluation (certification) service. Only FSC accredited certification bodies may evaluate and certify forests according to the FSC Principles & Criteria. The performance of the certification bodies is closely monitored by FSC. All accredited certification bodies may operate internationally and may carry out evaluations in any forest type.

Certified forests are visited on a regular basis to ensure they continue to comply with the Principles and Criteria. Products originating from forests certified by FSC-accredited certification bodies are eligible to carry the FSC-logo, if the chain-of-custody (tracking of the timber from the forest to the shop) has been evaluated.

5.2 FSC PRINCIPLES AND CRITERIA

FSC and FSC-accredited certification organisations will not insist on perfection in satisfying the Principles and Criteria (P&C). However, major failures in any individual Principles will normally disqualify a candidate from certification, or will lead to decertification. These decisions will be taken by individual certifiers, and are guided by the extent to which each Criterion is satisfied, and by the importance and consequences of failures. Some flexibility will be allowed to cope with local circumstances.

Differences and difficulties of interpretation of the P&C will be addressed in national and local forest stewardship standards. These standards are to be developed in each country or region involved, and will be evaluated for purposes of certification, by certifiers and other involved and affected parties on a case by case basis.

5.3 DIFFERENCES BETWEEN THE FSC AND ISO 14001

The FSC and ISO 14001 schemes are fully compatible. An organisation that applies an ISO 14001 EMS and adopts the FSC Principles & Criteria can obtain dual certification. Indeed, the FSC accreditation system is based on the relevant ISO standards (FSC Website). Although extremely similar in approach, there are three main differences between the FSC and the ISO 14001 certification schemes:

1. neither the FSC nor ISO 14001 define international performance requirements. Each leaves the definition of responsible performance to the appropriate local and national stakeholders. However, FSC certification does place greater emphasis on achieving performance targets than does ISO 14001;
2. FSC addresses social issues as well as environmental ones;
3. FSC certification can be used as a product label; and
4. The FSC-approach requires the creation of an international institution to govern the system.

5.3.1 Performance Flexibility

The WCD should acknowledge two main differences between the FSC and ISO approaches. First, although both systems incorporate a degree of performance flexibility, FSC certification is more strongly linked to on-the-ground results because it identifies specific Principles and Criteria. The existing ISO 14001 certification is better described as being linked to the quality of the company's management system. It requires that a company be able to identify its impacts, set suitable targets to limit the impacts, monitor and evaluate its success in achieving these targets and make ammendments to the management system if it is not achieving them. ISO 14001 certification does not necessarily mean that a company complies with laws and regulations; it means that it has an effective management system in place.

This nuance makes certification to ISO 14001 not as credible a demonstration of responsible management as the Stewardship Council approach. However, the WCD guidelines could act as a substitute for the Stewardship Council's Principles and Criteria. The work of the WCD may add a degree of credibility to the ISO 14001 approach. Also, it is possible that the strong incentives for compliance that a certification system can provide – as discussed, lower insurance premiums, access to credit and financing, reduced permitting and licensing requirements – may increase the importance of a company demonstrating satifactory performance. Especially if the financial community and government regulators are involved in the development of a sector-specific ISO technical specification document for dams, it is possible that companies may put more emphasis on performance in order to obtain the related benefits. In this way, the main weakness of the ISO 14001 approach – the distinction between effective management systems and effective management – may be reduced.

5.3.2 Institutional Requirements

The second main difference is in the need to create an independent institution for Stewardship Councils. A Dam Stewardship Council would require the establishment of a new institutional body to oversee the accreditation of certifiers, issue labels, and review and ammend the Principles and Criteria. With an ISO approach, on the other hand, the institutional support could be provided through ISO's well developed system of Technical Committees. Indeed, the work could be funded by ISO's National Standards Bodies and the accreditation of certifiers could be done through existing national institutions.

5.3.3 Other

Other differences between the two systems may be less relevant in the case of dams. For instance, although ISO 14001 certification does not give companies the right to label its products, it is uncertain whether labelling – which is most often associated with retail consumption – is required for the main electricity or irrigation markets.

At the time of its creation, the FCS was the only approach to international certification that enabled a sector-specific application. However, as explained, ISO has recently opened the door to the development of sector-specific technical specifications that may, after significant review, become full ISO standards. The additional guidance that can be included in these sector-specific technical specifications blurs the line between these two approaches and calls into question the high cost and logistical burden of setting up an international, independent Dam Council, or similar such institution.

6 Next Steps

This paper has outlined two possible frameworks within which the WCD can implement its Guidelines through an international certification system. It has also described some of the benefits of a standardised approach: consistency; predictability; credibility; and various incentives for dam operators to implement and comply with the WCD Guidelines. The two main international approaches have been described, listing the strengths and weaknesses of each. In particular, the institutional support available through ISO, industry's familiarity with the ISO approach, and its status as an international standard, may make the ISO 9000/ISO 14001 approach the most appropriate. The following section outlines the "next steps". Regardless of which approach is adopted, the development of any effective international certification system requires a consideration of certain first principles.

6.1 FIRST PRINCIPLES:

As mentioned earlier, the information provided by an international certification system that incorporates WCD Guidelines can influence the behaviour of a number of interest groups. Included among these groups are community groups industry groups, the financial community, and government regulators. In order to design as effective a system as possible, it is important to consult all of these stakeholders.

Also, the effectiveness of a certification system depends on the quality of the audit. If an assessment of some of the prescriptions is beyond the capacity of an auditor, the credibility of "independent" verification will be jeopardised. Therefore, auditing companies should be consulted as well. It would also be useful to solicit comments from the International Accreditation Forum (IAF), an international group that promotes mutual recognition of different national standards through the harmonisation of conformity assessment procedures.

6.1.1 Community Groups

The WCD must contact representative community groups to identify:

- How participatory mechanisms can best be developed;
- Whether participatory frameworks exist in other sectors, and are appropriate;
- Which groups must be involved at which stage of the process;
- The required degree of "independent" verification in each stage;
- The implications of accepting a formalised and binding stakeholder process;
- How an international certification system might affect the role of NGO as "watchdog".

6.1.2 Industry Groups

The WCD must contact relevant industry groups to identify:

- the standards that are presently used;
- whether some national standards can be adapted to the international level;
- the level of adoption of ISO 14001;
- how they view the incentives structure;
- links with the financial community and government agencies;
- preferences regarding the type of approach.

6.1.3 Financial Community

The WCD must contact the financial community to identify:

- whether similar systems are in place in other sectors;
- which aspects of the WCD guidelines are of most use to them;
- how an international certification should be designed to accommodate their needs;

- the value to dam operators of the associated incentives (lower insurance costs, access to credit and financing, ...);
- the links between the financial community and government agencies, national and international industry associations;
- its preferences regarding the type of approach.

6.1.4 Governments

The WCD must contact government regulatory agencies to identify:

- whether similar systems are in place in other sectors;
- how voluntary guidelines can best be integrated into regulatory regimes;
- in what way independent audits can replace regulatory-compliance monitoring;
- the legal implications of certification;
- whether governments are willing to formally endorse a WCD dam certification system;
- the links between government agencies and the financial community and national industry associations;
- preference regarding the type of approach.

6.1.5 Certification Companies and IAF

The WCD must contact certification companies and the IAF to identify:

- existing capacity to audit various dam-related specifications;
- possible training needs;
- international capacity to develop national certification companies;
- how to ensure mutual recognition of different national interpretations of the standard (IAF).

6.2 CHOOSING AN APPROACH

Although there are certain advantages to an ISO 9000/ISO 14001 approach, it is important to acknowledge that both approaches can help the WCD implement and provide incentives for companies to comply with its Guidelines. NGOs and community groups may prefer the Stewardship Council approach; Dam operators are likely to prefer the ISO approach. However, what should be acknowledged is that some kind of international certification system is needed if the WCD Guidelines are not to sit unused on a shelf. Depending on the type of approach adopted, the WCD should undertake the following actions:

6.2.1 ISO approach:

- informally contact national standards bodies, where possible through national or international industry associations, to identify support for the initiative;
- informally approach ISO's TC 207 in order to identify the level of interest;
- formally contact the ISO Secretariat through a National Standards Body, indicating WCD's credentials and support for the development of a technical specification document which identifies particular requirements for the application of ISO 14001:1996 to dam operations.

6.2.2 Dam Stewardship Council approach:

- contact the FSC and MSC in order to obtain technical advice and to develop a strategy for the development of a Dam Stewardship Council;
- contact donor agencies to assess funding potential;
- assess the international capacity to develop national Dam Councils;
- include as broad a stakeholder group as possible in the process, including banks and insurance companies.

6.3 SUMMARY

An international standard on large dam management that incorporates the "minimum guidelines" that emerge from the WCD-process, if paired with a third-party certification process would establish a "quality control mechanism" for dam projects. As suggested above, this could establish a framework in which both public and private investors could require dam projects to obtain certification – i.e. to comply with internationally agreed guidelines – in order to qualify for preferential lending rates, insurance premiums, or permitting conditions.

The ISO 9000 Quality Management System (QMS) standard and the ISO 14001 Environmental Management System (EMS) standard are platforms for flexible management guidelines: ISO 9000 for product quality management, and ISO 14001 for environmental management. They are international standards that establish very general policy requirements which leaves the definition of performance flexible to the unique circumstances in which the company is operating. They also incorporate independent third-party verification (certification to the standards) and have a fixed review schedule of 5 years. Based on these existing management system standards, ISO could assist the WCD by incorporating WCD's guidelines into an international standard for Large Dam management systems, enabling the guidelines to be credibly verified, flexibly used and ensuring that the guidelines continue to evolve.

As mentioned, this process would start with the development of a Technical Specification document detailing the application of ISO 9000 and/or ISO 14001 to the dam sector. Although such a document has already been developed within the automotive sector for application to ISO 9000 (ISO 1999a; ISO 1999b), a dam sector-specific application of ISO 14001 would be a pioneering development. Some critics have suggested that many of the problems with the generic ISO 14001 standard could be resolved if it was applied at the sectoral level (Rotherham 1999). In effect, a sector-specific ISO 14001-approach would more closely resemble the Stewardship Council approach. If it was to embark on this path, the World Commission on Dams would spearhead the development of more useful international environmental standards, and would demonstrate the usefulness of this approach to other insdustry sectors.

7 Bibliography

Bell, Christopher and Connaughton, James L. 1993. "New Global Standards May Guide Industry on Environmental Issues." National Law Journal 16(1): S2-S3.

EPA. 1998. "Environmental Labeling Issues, Policies and Practices Worldwide". Publication prepared by Abt Associates and Gary Davis. EPA Contract No. 68-W6-0021

Financial Times. 1994. "International Standards: Environment Has Been Transformed." October 14, 1994. p. 29.

FSC Website. Forest Stewardship Council Website: <Http://www.fscoax.org>.

Hauselmann, Pierre. 1997. ISO inside out: ISO and environmental management. A WWF International Discussion Paper. January, 1997.

IAF Website. http://www.iaf.nu

Kerr, Robert; Cosbey, Aaron; and Yachnin, Ron. 1998. "Beyond Regulation: Exporters and Voluntary Environmental Measures"; Published by IISD, Winnepeg, Canada.

Krut, Riva and Gleckman, Harris. 1998. ISO 14000: A Missed Opportunity for Sustainable Industrial Development. London: Earthscan.

ISO Online. www.iso.ch

ISO/IEC. 1996. ISO/IEC Directives Part 1. Third edition. ISO Online.

ISO 14001: 1996 Environmental Management Systems — Specifications with guidance for use.

ISO TR 14061:1998 Information to assist forestry organisations in the use of Environmental Management System standards ISO 14001 and ISO 14004.

ISO. 1998. The ISO Survey of ISO 9000 and ISO 14000 Certificates: Seventh Cycle - 1997. Geneva, Switzerland.

ISO. 1999a. TMB 29/1999 (MD), June 1999. Agenda Item 5.7: Activities of the Technical Committees. ISO/TC 176 Automotive Pilot Project Report. Available at: http://www.iaf.nu

ISO. 1999b. ISO/TC 176 N299R Annex A. "Quality Management Systems: Guidance on Development of Documents to Meet Needs of Specific Industry and Business Sectors". Available at http://www.iaf.nu

ISONews. 1999. ISO 9000 + ISO 14000 NEWS, Vol. 8, No. 2, March-April 1999.

OECD. 1997. Process and Production Methods (PPMs): Conceptual Framework and Considerations on Use of PPM-Based Trade Measures. OECD/GD(97)137.

OECD. 1998. Review of the Development of International Environmental Management Standards — ISO 14000 Standards Series. OECD Group on Pollution Prevention. Environment Directorate. Environment Policy Committee. ENV/EPOC/PPC(98)6. May 4, 1998. Paris: OECD.

Roht-Arriaza, Naomi. 1997. "Environmental Management Systems and Environmental Protection: Can ISO 14001 be useful within the context of APEC?" Journal of Environment and Development 6(3): 292-316.

Rotherham, Tom. 1999. "Raising Standards: IUCN and the Future of the ISO 14001 Environmental Management System (EMS) Standard". Paper prepared for the IUCN Economics Service Unit; IUCN – The World Conservation Union: Gland, Switzerland. Available at: http://www.economics.iucn.org

Steiner, Achim. Briefing Meeting on WCD made at IUCN – The World Conservation Union, Headquarters, Gland, Switzerland. May 1999.

Trachtman, Joel. 1992. "L'Etat C'est Nous: Soveriegnty, Economic Integration and Subsidiarity". Harvard International Law Journal: Vol. 3, No. 2, Spring 1992, pp. 459-73.

UNIDO. 1991. UN Industrial Development Organization: International Product Standards: trends and issues. UNIDO-PPD.182. Vienna: UNIDO.

US-AEP. 1997. Global Environmental Management: Candid Views of Fortune 500 Companies. United States — Asia Environmental Partnership. Available at: <Http://www.usaep.org/gem/report.htm>.

WCD Website. www.dams.org.