

*Executive Summary*

*USSD  
White Paper*

Planning Processes for  
the Development of  
Dams and Reservoirs

# Public Involvement and Alternatives Analysis:

A Framework for  
Successful  
Decision-Making

June 2003



## *Introduction*

This Executive Summary is based on a USSD White Paper released in June 2003. The White Paper presents a multidisciplinary decision-making process for the development of dams and reservoirs focusing on public involvement and the analysis of alternatives.

## *Values and Importance*

Water is a necessity for progress and quality of life for both society and the natural environment. It is perhaps the most important commodity today to all people. Although always important, opinions about its use and control are both universal and diverse. Water, although abundant when considered in the whole of the world or the United States, is unevenly distributed in both space (location) and time. Both scarcity and flooding are problems that can cause great harm both to society and the natural environment. Safe and reliable access to water resources is a cornerstone of a society that is healthy and prosperous. Redistributing the availability of water in either time or space, or both, is the primary purpose of dams and reservoirs.

Water is a necessity for progress and quality of life for both society and the natural environment. It is perhaps the most important commodity today to all people.

However, the development of dams and reservoirs generally requires a major investment of public resources. Usually both financial and natural resources are required. Because of this, successful decision-making and credible project planning need to be founded on the values of equity, efficiency, accountability, sustainability and participatory decision-making. These values were specifically identified in the report issued in 2000 by the World Commission on Dams (WCD). These values, although not directly named, had begun to become the foundation of planning reports for dams and reservoirs in the United States during the late 1980s and early 1990s.

Meeting the needs of a society and achieving the purpose of a project are more important than implementing a particular project. A project sponsor must be accountable for efficient investment of public resources and equity among those obtaining value from the project and those making investments and sacrifices to bring the project about. The achievement of the project's purpose must be balanced with the continuation and sustainability of resources for other and future purposes of society. The balances required in modern planning and decision-making processes can most effectively be achieved through participatory, multidisciplinary decision-making processes.

The successful plan is one that can be implemented in a timely manner and sustained, even in the face of future challenges. A good planning decision-making process can be compared to a process for determining the most likely successful course of action.

## Public Involvement

A potential dam and reservoir project has a wide range of stakeholders. In addition to the project sponsor, stakeholders include policy makers, regulators, investors, special interest groups and the general public. A successful project will involve all of these stakeholders so that their needs, concerns and issues are met or addressed.

The core values identified in the WCD report — equity, efficiency, participatory decision-making, sustainability and accountability — can also be applied to the public involvement component of a project. These values lead to a public involvement program that draws stakeholders and interested members of the public into the project decision-making process in order to develop a shared solution. When practiced honestly, consistently and in a timely manner, public involvement helps ensure project acceptance and implementation. The public involvement program reflects the respect that the project sponsor holds for the public or community served by the sponsor.

The first principle of a public involvement program is that an informed laity is necessary for meaningful public participation. Secondly, each discipline represented on the project team needs to have an understanding and appreciation of the roles, responsibilities and legal requirements and constraints of the other disciplines, including public involvement. Public involvement is a valuable component of project development that can support the technical work, identify issues and potential problems early in the process and assist a project team in addressing and resolving issues at the earliest stage. Third, societal and cultural values must be identified and the project team should assess how the project relates to those values so that they can articulate the costs and benefits of the project to the public. Finally, the value statement expressed by these principles is that the public

involvement process will go beyond the minimum requirements of law, since early and meaningful public input is critical to efficient and effective utilization of project team resources to maintain the project schedule and manage the cost of the study.

A framework for evaluating the role of stakeholders in project activities is presented in the table **Nature of Stakeholder Involvement**, found on the following page.

## Need and Purpose

Water resource development projects evolve from one or more water resource needs identified in any given region. Establishing a well-conceived statement of the need and purpose is a crucial step in validating and fully defining the range of needs and, ultimately, the plan for a water resource development project. The process is interactive throughout the project planning stage. Additional needs may be revealed as project planning unfolds and new facts, input from stakeholders, constraints, opportunities, sources of funding or other factors are revealed. Without a well-defined statement of need and purpose, it becomes difficult to develop practicable, prudent and reasonable alternatives. Ultimately the cost (and consequences) of the no-action (or denied project) alternative is defined by the need and purpose of the project. Without a clear statement of need and purpose, consequences of no-action may be elusive to the public, regulatory agencies and even the project sponsor's own staff, consultants and contractors.

## Nature of Stakeholder Involvement

Stakeholders				
Project Activity	Project Sponsor	Regulators	Involved Public	General Public
Need & Purpose	Identify	Acknowledge	Advise	Be Informed
Alternatives Development	Formulate	Be Informed	Advise	Be Informed
Screening of Alternatives	Conduct	Review	Participate	Be Informed
Project Selection	Decide	Review	Advise	Be Informed
Final Approval of Project	Decide	Permit	Review & Comment	Review & Comment
Final Design	Implement Commitments	Review & Approve	Advise	Be Informed
Construction	Implement Commitments	Monitor & Approve	Express Concerns	Be Informed
Operation	Implement Commitments	Monitor & Cite	Express Concerns	Be Informed

- Involvement of the General Public is dependent on the type of project, whether there is a vote on the project or its financing, and the proximity of the project to residents.
- Members of the General Public may move from a more passive “Be Informed” role to a more involved role if they are directly impacted (for example, by construction).
- Individuals who were part of the Involved Public category may move into the General Public category if there are no longer issues they care deeply about or they are not impacted by the project any longer (for example, a different site was selected and they are no longer in close proximity).

### Alternatives Formulation

The process of alternatives formulation is directly tied to the need for and purpose of the project. Although there are usually a number of different ways to meet the stated needs of a project, it is not necessary to consider every conceivable option. Rather, a reasonable number of alternatives should be identified among the broad range of available options. The alternatives formulation process needs to be carried out from two perspectives: a means and

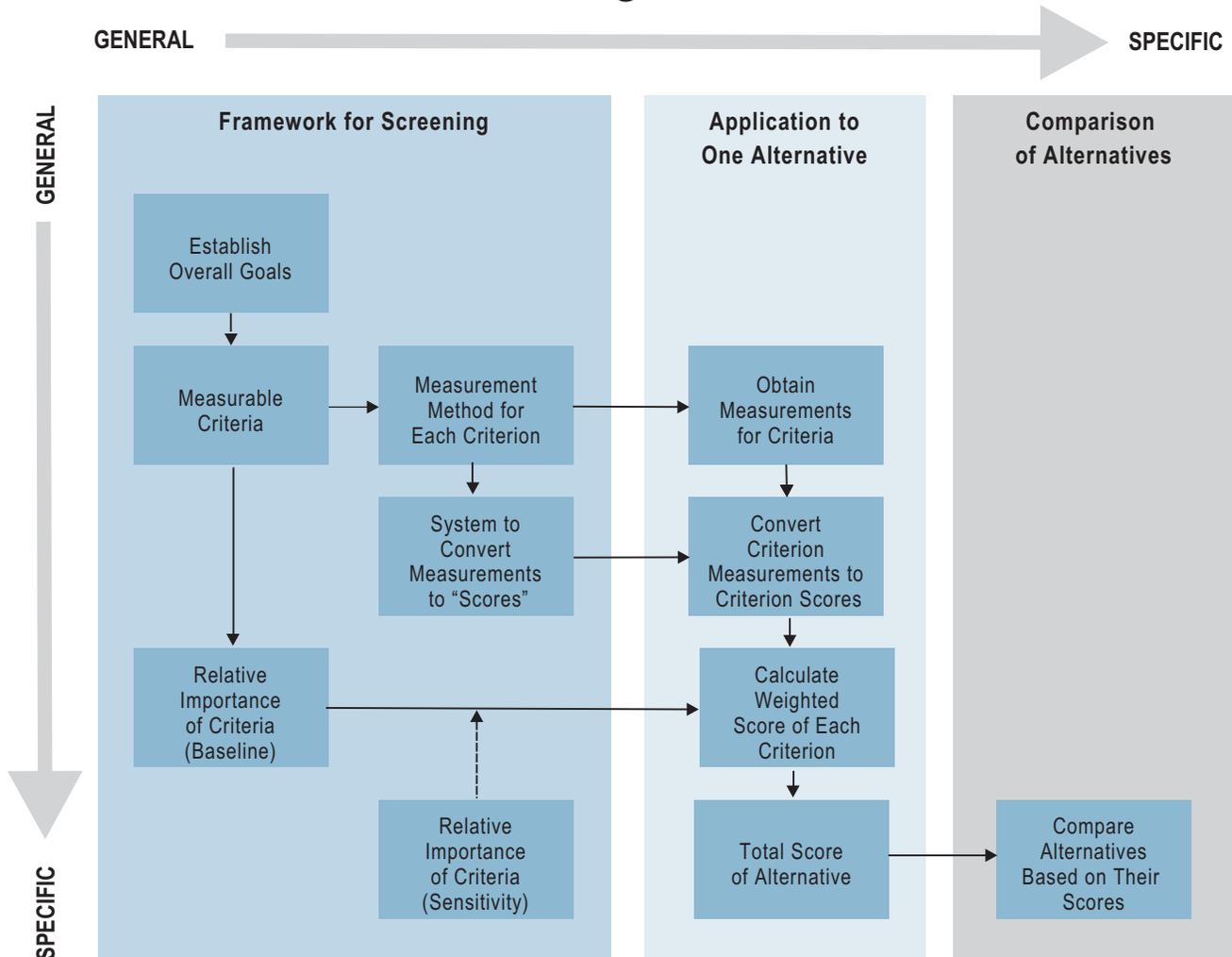
analysis perspective, and a components and location perspective. These two perspectives consider structural and non-structural means of accomplishing the need and purpose of the project, establishing alternatives selection criteria, establishing data collection requirements, producing the initial set of potential alternatives, defining the location and basic physical elements of project alternatives, and refining the description of the initial alternatives.

## Screening of Alternatives

The purpose of the alternatives screening (or comparison) process is to systematically reduce a relatively large number of alternatives to a final few. The process must be objective, defensible and unbiased. This process should be defined, in writing, in advance of its application but after the general range of alternatives is known. It is generally finalized during the data collection stage of alternatives formulation. A competent screening process, such as diagramed below will:

- Include considerations that are important to the project sponsor, regulatory agencies and other stakeholders.
- Allow for comparison of alternatives that are diverse.
- Allow for consideration of engineering, environmental, social, operational and cost factors.
- Allow for testing of screening results using sensitivity analyses.
- Provide for public involvement in its function.

# Screening Process



## *The Final Decision*

The final decision as to whether to carry out a project at all and which particular project alternative is to be implemented rests with the project sponsor — the entity that will perform (or construct) the project, will be held accountable for the project's success or failure, and must be capable of obtaining the resources (revenue and mitigation) to make the investments required to implement the project. An entity with such responsibilities cannot be an ad hoc public participation group, a permitting agency or a lending agency.

However, entities other than the project sponsor, such as regulators, have a legitimate role, responsibility and authority in meeting other societal values in the protection of public resources — fiscal and environmental, as well as individual rights. As such, these entities will review the sponsor's final decision in their role as "secondary" decision-makers. In this role, they can deny the implementation of a project without otherwise rising to meet the societal need and purpose of the project. A competent decision-making process must recognize both the responsibilities and limitations of the "secondary" decision-makers and lend credibility and accountability to their responsibilities. "Secondary" decision-makers are generally involved in one of three areas of project implementation: Permitting, Financing or Property Acquisition.

## *Accountability During Project Implementation*

Project management processes for scheduling, reporting and control during project implementation have traditionally addressed only technical logic and resource requirements. However, accountability of all required societal investments in the project should be maintained during the design, construction and operation of a project. This means that the implementation plan must account for all commitments made during the planning phase of a project. Failure of the project sponsor to provide accountability for the commitments made to "secondary" decision-makers risks the imposition of penalties or suspension of the project. The implementation plan, therefore, also needs to account for and demonstrate compliance with all of the environmental mitigation commitments made during the planning phase. The evaluation criteria used in the screening process can provide an initial outline for key elements of project quality assurance plans and mitigation monitoring and reporting plans as elements of a project implementation plan. Stakeholder participation needs to continue into project implementation to demonstrate that commitments made during the planning phase are being adhered to, that good stewardship of societal investments is being practiced, and that requirements for societal investments are distributed equitably. Even during implementation, the public involvement program needs to emphasize the value to society that will be achieved by the project in meeting its need and purpose. And, conversely, it also needs to point out the values that will be denied to society if the project fails to be completed for any reason.

# Summary

Responsible planning for dams and reservoirs requires decision-making and planning processes that are founded on the values of equity, efficiency, accountability, sustainability and participatory decision-making.

Alternatives development and screening processes need to be based on a well-defined statement of project need and purpose. The public needs to be directly involved in the development and workings of both of these processes. The purpose of the planning phase decision-making process is to effectively identify project alternatives that successfully meet the identified societal need and project purpose with an efficient investment of public resources. Accountability and public participation in this process lead to a decision that can be implemented and sustained. The process supports our professional responsibilities for stewardship and the sustainability of public resources in the development of dams and reservoirs for promoting and sustaining a healthy and prosperous society.

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The United States Society on Dams (USSD), a Member of the International Commission on Large Dams, is a professional organization dedicated to:

- advancing the technology of dam engineering, construction, operation, maintenance and safety;
- fostering socially, environmentally and financially responsible water resources projects; and
- promoting public awareness of the role of dams in the beneficial and sustainable development of the nation's water resources.

*Membership in USSD is open to all professionals involved in dam engineering and the associated management, environmental, financial and social disciplines. For more information about USSD membership opportunities and the Society's Publications for Sale (including the White Paper **Planning Processes for the Development of Dams and Reservoirs — Public Involvement and Alternatives Analysis: A Framework for Successful Decision-Making**) contact:*

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