Using ISO14001 Gaps Analyses To Improve Sustainability Of Water Programs And Projects

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Abstract. International water resources management programs and projects (hereafter, projects) historically have sometimes failed to meet increasingly complex societal demands and multiple objectives. The international agencies, banks and national governments have detailed project review criteria, but such reviews often have been narrowly focused. There are few systems in place that assist with formulating, assessing, implementing and monitoring these international projects in an integrated fashion, directed toward the goal water resource sustainability. In addition, water resource needs and potential solutions often are poorly communicated to an increasingly involved general public. Projects are also being assessed for 'environmental due diligence' by the project proponents, but without a comprehensive system or procedure.

The International Organization for Standardization (ISO) has formulated the ISO 14000 series of standards to improve environmental performance of an organization. ISO 14001 is a standard that provides the "core" requirements for developing and implementing Environmental Management Systems (EMSs) that can be "certified" or registered by an external third party.

The hypothesis of this research was that so-called ISO14001 gaps analyses (a gap defines the difference between the existing condition and ideal EMS compliance), using water-related EMSs, could improve the economic/environmental performance and sustainability of projects addressing or affecting regional or national water resources at various stages of project development including formulation, design, review and implementation. The development of a set of comprehensive EMSs that can be applied to various types of water-related projects (and projects in other sectors affecting water resources) is a daunting challenge. Such an effort could likely be undertaken by organizations such as the World Bank or United Nations agencies under global environmental project funding.

To foster these international efforts, the objectives of this research were to:

1. Outline the various multi-dimensional criteria that affect the sustainability of international water-related development projects,
2. Determine where and how ISO14001 reviews in the standard project cycle could assist with improving the sustainability of water-related development projects,
3. Develop some representative water-related EMSs for use in standard ISO14001 gaps analyses at various stages of project development and implementation, and
4. Demonstrate the potential application of these EMSs and gaps analyses on a large World Bank water and sanitation project.

The process of defining sustainability will involve many facets and levels of society and could consume decades to matriculate. Local, regional and national viewpoints from many disciplines are required to fully develop sustainable economic planning for a particular country, as well as resolve international water conflicts. It is hoped that this modest start at developing a systematic review process will lead to more comprehensive tools for improving international water project performance relative to sustainability goals.