As of April 30 2007, this document is NO LONGER IN USE by the World Bank Group. The new versions of the World Bank Group Environmental, Health, and Safety Guidelines are available at http://www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines



International Finance Corporation

Environmental, Health and Safety Guidelines for

Wastewater Reuse

Wastewater reuse is recommended as a water resource conservation measure. Treated wastewater may often be recycled for manufacturing process use, cooling water systems or for irrigation.

All wastewater must be treated to meet IFC guidelines for liquid effluents which are applicable to the project and wastewater source. When the treated wastewater is used for irrigation purposes in areas which involve public use or unrestricted access by the public, the treated wastewater must also meet the following quality guidelines:

Treated Wastewater Quality Requirements

Parameter	Maximum Value
Coliforms	Less than 100
	MPN/100 ml(MPN =
	Most Probable
	Number)
Helminth Standard	< 1 viable intestinal
	nematode egg per liter
	(>99% egg removal)

Although a number of treatment methods are available to meet these guidelines, chlorination should be used only with care. It is difficult to maintain a uniform and predictable level of disinfecting efficiency with chlorination; it is expensive; and chlorinated, organic by-products may be toxic, mutagenic or carcinogenic. The stabilization pond system of treatment is effective in meeting health criteria economically. However, primary sedimentation techniques and secondary biological treatment also can be used to comply with the above water quality guidelines.

¹ Source: Guidelines for the Safe Use of Wastewater and Excreta in Agriculture and Aquaculture, World Health Organization, 1989.

The information is intended for use by staff of the International Finance Corporation and its consultants in carrying out the policies set out in the Operational Policy on Environmental Assessment (OP 4.01) and related documents.