BLACKSMITH INSTITUTE

Project Completion Report:
Restoration of the Msimbazi River, Tanzania

- **Project Details:**

Location:	Dar es Salaam, Tanzania
Contaminant:	Biological waste, heavy metals
Project Duration:	December 2004 – May 2005
Project Cost:	$6,240
Implementing Partners	Environmental Professionals Organization (EnviPro)
Other Partners:	

- **Background and Scope:**

The Msimbazi river flows across Dar es Salaam City from the higher areas of Kisarawe in the Coastal region and discharges into the Indian Ocean. Because of its location, the river has been an important resource for residents in the Dar es Salaam city in many various ways. Additionally, the river has been abused by different sectors as a dumping site for effluent and other pollutants produced by the city. As a consequence of the high levels of pollution, the river's water quality has sharply decreased, and is no longer safe for consumption, domestic uses, or even irrigational application.

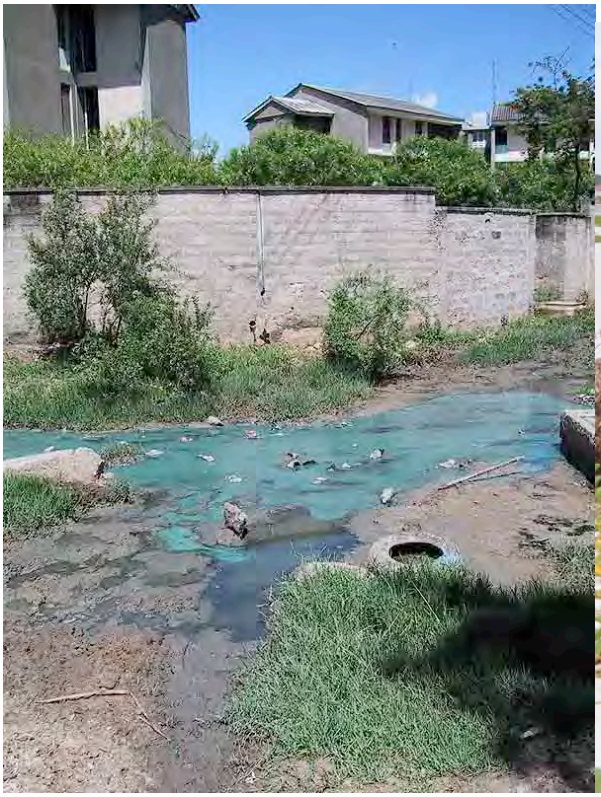
Studies have indicated high levels of heavy metal in the river, run-off from local industry. Additionally, toxins in the river are also attributable to the presence of a slaughterhouse waste dump site besides the river in Vingunguti area, which continually leaks greater and greater degrees of effluent into the water. A local abattoir located near the river is another significant source of discharge into the water. Sources of pollution from domestic households include poor sanitation systems mainly from septic tank and pit latrines that are used by about 85% of the city population. Agricultural activities using manure and fertilizers both in the basin and at the beds of the river have made the pollution problem more complicated. Ultimately, it is clear that the sources of pollution impacting the river are quite numerous and diverse.

Because of the contamination to which the river has been subjected, it is no longer capable of providing either water to the populations living along its banks or of providing a suitable environment for its own aquatic life. Now, as both an environmental and a health hazard, it is imperative that the pollution in the Msimbazi river be dealt with in all haste.

- **Project Metrics and Results:**

The objective of this project has been to revitalize the Msimbazi River through remediation of the damage already done and prevention of further pollution. The objective was achieved through a combination of technical and non-technical approaches. The ultimate goal of the project is to restore the functional values of the river. The short-term objective of the project was to prevent further environmental damage to the river ecosystem by controlling the discharge of the pollutants into the water.

The project was designed to be implemented in stages, each deliberately designed to help tackle the issue in pieces when it is not possible to secure funding for the entire project at once. Stage one required taking inventory of pollution sources. Stage two required identification, evaluation, prioritization and sign of applicable remedial measures; it included technical design, social-political incentives, and mass sensitization campaigns. The final stage required the implementation of the prioritized remedial measures from stage two. Technical solutions needed to address the following issues: (i) closure and care of the Vingunguti solid waste disposal site; (ii) Magomeni settlement sanitation improvement; (iii) abattoir effluent treatment; (iv) enhancement of wetland in the river valley; (v) improved car wash systems; (vi) post-treatment of effluent from waste stabilization ponds.



- **Outcomes and Follow-up:**

  With Blacksmith's support, EnviPro is now working with the local industry and municipality to garner technical and other support for the project and for similar actions at other sites. While the focus remains on the slaughterhouse, EnviPro's overall goal is the rehabilitation of the Msimbazi River through identification and monitoring of polluting industries along the river's banks. Water from the polluted river is used by residents for domestic uses and even direct consumption.

  The Vingunguti Municipality (owner of the slaughterhouse) has installed drainage channels, replaced the concrete floor, added a fence and is now allowing residents to use manure as fertilizer. Envipro continues to work with local government and NGO groups in an effort to locate and assess the river's pollution sources, conduct inspections of polluting industries, and compel cleanup actions in the form of wastewater treatment systems, the removal of debris from the river, and curbing pollution of the local waste stabilization pond.

- **Additional Information:**