



## Multi-Modal Projects Implementation Strategy

Multi-modal Polluted Places are locations that has been polluted by a variety of sources, over a protracted period of time, and where pollution sources are both active and legacy. Commonly found in industrialized areas of the third world, the solution to these area-based problems lies in the establishment and implementation of a comprehensive plan of action that takes all aspects of the problem into account.

To initiate a clean-up effort that will have long-term success, first, there must be a consensus amongst all key stakeholders to fix the problem, and then a plan designed that takes into account three critical design areas: legacy issues, active polluters, and capacity and regulatory structures.

The initial step is to **create a panel of key stakeholders**. This must include at least the following:

- Government municipal authorities
- Government environmental authorities
- Key industry representatives
- NGO and community representation
- Science/technical resources
- And if possible, potential funding agencies (MDBs, federal agencies, etc)

The group should meet regularly, and pursue the following course of work:

This **group should review existing health risk information**. If available health risk data is insufficient to gain a consensus that something needs to be done with some urgency, the additional data collection and analysis should be done. The depth of the scientific research here should be conducted sufficiently so as to be convincing to the panel, and need not require a time-and-money intensive full health study. Well-known health impact studies can be used to extrapolate expected health implications from measured toxin concentrations.

Once convinced of the risks, the group then needs to split their attention into **three separate areas** of focus to **create an implementation plan**. In each of these three areas, the group should make a review of the range of solutions, chose the most appropriate plan of action, estimate the cost of implementation and a likely timetable for implementation. In each, key issues are as follows:

**Active Polluters**. Existing factories and other sources of pollution need to be evaluated and known. It is best to split clusters of industries into groups, or to review types of polluters along industry class. For each cluster or class of polluter, the following general options are available:

- Implementation of Clean Production or Pollution Prevention strategies.
- Establishment of end-of-pipe treatment plants (including cost recovery)
- Moving industries to locations away from population centers, usually in conjunction with one of the above.

For each class of polluter, one of these strategies should be chosen, and a plan to implement that strategy costed, timetabled, and reported.

**Legacy Sites.** Polluted soil, standing water, groundwater, or waste dumps that continues to leach toxins must also be cleaned up. The following strategy should be followed:

- Determine the location and toxin type of all legacy sites
- For each site, evaluate the most cost effective and technologically appropriate solution
- Cost, timetable, and report that solution.

**Capacity Structures and Regulatory Requirements** Local intellectual structures are needed to manage and monitor the implementation process. The following key items should be considered:

- Are new regulatory agencies or regulations required?
- How will the implementation work be funded?
- Who will conduct the implementation work?
- Who will monitor the implementation?
- How will pollution clean-up results be monitored?
- How will active industries be monitored and managed?
- How will the public be informed, and involved?

If any of these areas is not already in place, then a plan to create the appropriate capacity needs to be created and costed.

Each of these three implementation areas can then be combined into the summary plan of implementation. Note that if any of these key areas are not fully addressed, it is likely that remediation will not be complete, and the site will continue to pollute the local population.

The resultant plan should be the basic overall strategy for fixing the problem. The stakeholder group should approve it. Care should be taken that this plan is not consultant driven, (i.e. overly complex or detailed) rather that it acknowledge where more detailed analysis may be required as a part of the implementation process. The plan should aim to be reasonably simple and understandable by any interested party. It is the starting point to be used to garner the resources that will be necessary. It should be capable of design within 6 to 12 months from inception. Senior technical advice is likely required to give real world input.

This **implementation plan is then presented to funding sources.** Once approved and implementation begun, the role of the stakeholder group is then likely to shift.

Recommended resource for more detail – The World Bank Pollution Management Handbook (Brown Book)