Establishing Success Stories of Community Redevelopment
Redevelopment Approaches for Contaminated Sites
QUICK FACTS

The Institute
Pure Earth (formerly Blacksmith Institute) is a New York-based not-for-profit organization that partners with governments, NGOs, and community groups to solve life-threatening pollution problems in low- and middle-income countries. In addition to leading the Toxic Site Identification Program, Pure Earth conducts cleanup projects to mitigate health risks at toxic sites. See Pure Earth’s website at www.pureearth.org. Pure Earth has been tasked by the Asian Development Bank (ADB) and the Department of Environment and Natural Resources (DENR) to undertake the regional technical assistance (TA) E458: “Mitigation of Hazardous Wastes Contamination in Urban Areas: Supporting Inclusive Growth” in Indonesia and the Philippines.

The Project
Beginning in 2009, the Asian Development Bank (RETA 7395), European Commission, Green Cross Switzerland, United Nations Industrial Development Organization, and World Bank supported Pure Earth’s "Toxic Sites Identification Program" (TSIP) to make preliminary investigations into the scope of hazardous wastes in Indonesia and the Philippines. Find out more about the Program by logging on to www.pureearth.org/projects/toxic-sites-identification-program-tsip. Despite this work, the state of knowledge in this area is characterized by considerable gaps that this TA will help address. Several key barriers exist to achieving the environmentally sound management of hazardous wastes, and the subsequent planning for urban revitalization in the project countries. These include the following:

• Need for further training and information sharing on size and scope of hazardous waste contamination and potential health risks.
• Insufficient financial resources, technical expertise and capacity for enforcement.
• Informal livelihood implications are inadequately addressed.
• Substandard operations and limited capacity of formal/licensed industry.
• Communities and industries are often inadequately engaged.
• Known benchmarks for urban planning elements have lacked provisions for hazardous waste management or pollution remediation.

The overall objective of the TA is to improve environmental management of industrial activities in urban areas of the Philippines and Indonesia. The TA will contribute to four major outcomes:

1. Increased awareness of the scope of the problem;
2. Capacity improved among environmental regulators, industrial stakeholders and artisanal operators;
3. Plans, strategies and policies to integrate environmental management with urban redevelopment, and ultimately,
4. The mitigation of hazardous waste exposures in urban environments.

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Environmental management, land use and development planning are inextricably linked. Many of the environmental issues, including hazardous waste contamination in urban areas, are influenced by how the land use and development plan are being formulated and implemented. At the same time, beneficial land use and development planning couldn’t be carried out unless environmental considerations are taken into account. You are reading this primer because you are one of the primary movers in these fields! Together, let us look into the steps in land use redevelopment which integrates toxic and hazardous waste management.

We at Pure Earth focus on people’s health by solving pollution problems in low- and middle-income countries. While our mission globally is cleaning up one community at a time, this TA presents a significant approach to remediating contaminated sites, which is looking at it from the angle of redevelopment. Redevelopment in this context is the planning for clean-up of toxic sites in order to make the next best use for such sites possible.

As part of TA 8458, we’ve put together this short primer to raise awareness on land use planning and redevelopment of contaminated sites as an approach to mitigation of hazardous waste contamination. This information, education, and communication resource takes stock of lessons learned from different land use redevelopment programs in different countries and provides a checklist for redeveloping contaminated sites that you can adopt in your locality.

As this primer is intended to be a handy reference, it is by no means a comprehensive manual on land use planning and redevelopment of contaminated sites. If you need detailed guidelines on this matter, you may check programs on Brownfield Opportunity Areas (BOA).
BACKGROUND

The Marilao-Meycauayan-Obando River System (MMORS) in the province of Bulacan is situated in the industrial belt of the W-Growth Corridor (DENR EMB R3). The area has hundreds of small to medium scale industries, a steady and fast growing population due to the fast development of areas into residential and industrial subdivisions, commercial establishments, and the like. Bulacan takes pride in being the Small and Medium Enterprise (SME) Center of the region. It may also be considered the center of piggeries, poultry farms, and other agriculture-based products, smelting, tannery, and pyrotechnics industries. Many of which is small scale and without pollution control facilities and environmental mitigating measures. According to DENR EMB Region 3, the MMORS is considered heavily polluted. Careful planning must be employed in order to mitigate environmental degradation while sustaining economic growth. The MMORS Water Quality Management Area (WQMA) and its corresponding Governing Board was created in 2008 to plan and implement river rehabilitation policies and programs. The member institutions of the Governing Board have expended significant efforts toward this end, but much remains to be done.

CONTAMINATED SITES

Contaminated land can have major economic, legal and planning implications for the community. Contamination may limit land use potential or increase costs for developers and councils. Their investigation and clean-up is important to protect human health and the environment (http://www.epa.nsw.gov.au/clm/, May 2015). Clean-up then sets the stage for potential redevelopment.

In the MMORS WQMA, previous studies showed that some areas are contaminated with toxic pollutants such as heavy metals -- including arsenic, lead, cadmium, chromium, and mercury (Blacksmith, 2008). Although contaminated sites can occur anywhere, they are typically clustered in areas which have been used for heavy industry or chemically intensive businesses. They may also include residential properties, for example, from small and medium artisanal operations that make use of chemical pollutants.

Failing to deal adequately with contamination could cause harm to human health, property and the wider environment. (Water Framework Directive UK, June 2014) It will also limit development options.

REDEVELOPING CONTAMINATED SITES

BROWNFIELD OPPORTUNITY AREAS (BOA) PROGRAM

There are four steps in the brownfield redevelopment process. In each of the steps, multiple varying activities may occur. This process is drawn from the Anatomy of Brownfields Redevelopment, part of the Brownfields Solutions Series from the U.S. Environmental Protection Agency.

1. Pre-Development
   - Identify and refine a development idea
   - Conduct due diligence
   - Secure access to the property
   - Identify sources of funding

2. Securing the deal
   - Contract negotiation
   - Secure funding
   - Establish a remedial action plan
   - Securing the property and formal commitment

3. Clean-up and development
   - Approvals
   - Clean-up
   - Integrate clean-up and construction
   - Property sale or lease
   - Completion and formal opening

4. Property Management
   - Long-term operations
   - Maintenance of remedial systems
NEW YORK STATE DEPARTMENT OF STATE BROWNFIELD OPPORTUNITY AREAS PROGRAM

The Brownfield Opportunity Areas (BOA) Program provides communities with financial and technical expertise to revitalize areas affected by brownfields, abandoned or vacant properties and economic distress. A "brownfield" or "brownfield site" is defined as any real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant. Through the BOA Program, communities are planning for the reuse and redevelopment of brownfields on an area-wide basis, as opposed to dealing with brownfields and other unproductive parcels, on a site-by-site basis.

Effective Strategies for Revitalization
The program’s end product is a community-driven revitalization plan and implementation strategy to return unproductive land back to use and in the process spur a rejuvenation with new economic activity through redevelopment as well as through new recreational opportunities and restored natural resources. The BOA process enables community leaders to establish a clear vision and plan for action to revitalize areas so they become economically and environmentally sustainable and improve quality of life for residents.

The BOA program funds a range of flexible predevelopment activities necessary to attract public and private capital investment to underutilized properties. The BOA approach can reverse the cycle of disinvestment and decay to create livable neighborhoods and functional communities by attracting new uses such as: housing and retail, commercial, business incubators and manufacturing, supporting infrastructure, and public amenities such as parks or recreation facilities.

The range of activities and techniques the program offers, that are partially listed here, begin with community visioning and end with a strategy for redevelopment and revitalization:

1. **Community visioning** to establish a blueprint for revitalization including redevelopment and environmental quality improvement objectives.

2. **Public participation** to ensure community involvement in the process and support for the revitalization plan and redevelopment projects.

3. **Existing conditions analysis** including land use, zoning, ownership, infrastructure, natural features, and an assessment of assets and opportunities.

4. **Infrastructure studies** including traffic and transportation, parking, water and sewer, utility and relocation studies.

5. **Site inventory** of abandoned, vacant or brownfield sites available for redevelopment.

6. **Market trends analysis** to identify an economic niche and the range of realistic new uses and businesses for sites.

7. **Identification of strategic sites** that are the most promising redevelopment opportunities to spur revitalization.

8. **Acquisition due diligence** including property appraisal, title work, surveys, and phase I environmental and archeology assessments.

9. **Environmental site assessments** (phase II) at strategic brownfield sites (municipally-owned sites and sites owned by a volunteer who is not responsible for the contamination) may be eligible.

10. **Site specific demand and feasibility analysis** to understand the demand for specific uses, the magnitude of costs, benefits and overall project feasibility.

11. **Conceptual designs and cost estimates** to illustrate positive design elements and how strategic sites will appear when redeveloped.

12. **Convene interests to foster development** by enlisting a neutral, objective consultant to work as a liaison on behalf of the grantee, private landowner, and development interests to explore project feasibility and reuse alternatives.

13. **Portfolio of sites** available for development with a description of site conditions and preferred uses.

14. **SEQR activities** that may include the preparation of a generic environmental impact statement to accelerate the redevelopment time-frame.

15. **Project permitting** to advance development predictability on strategic sites.

16. **Local zoning revisions and other local laws** to ensure the desired end uses identified in the BOA plan are permissible.

17. **Design standards and guidelines** for buildings and streetscapes to ensure quality future development.

18. **Site marketing** through project renderings, brochures, web applications and the preparation of requests for proposals for specific development projects.
In the United States, brownfield redevelopment has shown several advantages. Facilitating and investing in these projects can benefit municipalities in many ways, among them:

- Brownfield cleanup and reuse stimulates new investment in underutilized properties.
- Brownfield redevelopment creates tax revenues by converting underutilized properties into economic engines.
- Brownfield redevelopment creates jobs. Survey indicated that 83,171 jobs had been created from former brownfield sites in 71 cities.
- Redevelopment is a critical tool for community development. When abandoned or unmonitored sites are redeveloped with more dynamic uses, public safety is improved, jobs may be created, and blight is removed.
- Can include recreation space or community centers that support a neighborhood’s social fabric.
- Cleanup enhances public and environmental health through the remediation of contaminated properties.
- The reuse of brownfields encourages efficient land use, preventing sprawl and protecting open space, by targeting new construction to previously-developed areas.
- Brownfield redevelopment conserves public capital by directing new construction to areas that are already served by existing infrastructure, such as roadways and utility lines.
- Brownfield redevelopment replaces blighted buildings and landscapes with more attractive forms of development. Retail, mixed-use, housing, and commercial projects are typical uses for redeveloped brownfield sites.

### Case 1: Wyandanch Downtown Revitalization Plan

**Wyandanch Redevelopment Plan**
- Site area: 8 hectares
- Transit-oriented development
- 176 apartments
- 3,240 sm retail
- 920 space LIRR parking garage
- Office - future phase

**Environmental Issues in Wyandanch Site**

- **Hazardous Waste Generators**
  - (dry cleaners, fueling stations, auto repair)

- **Underground Petroleum Storage and other underground storage tanks**
  - (tanks ranging from 275 to 10,000 gallons gasoline, diesel fuel, polyester resins)

- **Air Discharge Facilities**
  - (volatile organic compounds aminomethane, acetone)
Wyandanch Downtown Before Redevelopment

*Site A*

Wyandanch Downtown After Initial Implementation of the Redevelopment Plan

*Site A*

**Summary of Tax Credits Eligible Under NYS Brownfield Cleanup Program**

- **Site Preparation and Onsite Groundwater Remediation**
  For remediation, demolition, excavation, fencing, security and other capital costs required to make the site usable for redevelopment: 25%

- **Tangible Property Credit ("Redevelopment Credit")**
  For buildings and improvements placed in service within 10 years of Certificate of Completion: 10%

- **Brownfield Opportunity Area (BOA)**
  For sites located within designated BOA: 2%

*Wyandanch Redevelopment Plan Map - Site A*
CASE 2: RIVERFRONT NORTH, BRISTOL BOROUGH, BUCKS COUNTY, PA

The Riverfront redevelopment project is a 52-acre site located on the Delaware River in Bristol Borough, Bucks County, Pennsylvania, USA. It has a long industrial history, including functions as a shipyard and trash transfer station. A portion of the site also operated as a zinc manufacturing plant which closed in 1986, and Dial Corporation which manufactured soap products until 2001.

Redevelopment Planning
The Bristol Borough and the Bucks County Redevelopment Authority (BCRDA) envisioned a sweeping change of uses at the rundown and underutilized waterfront property. It ranked the site as the number one priority in an inventory of all brownfield sites in the Enterprise Zone of Bucks County, Pennsylvania. Then later moved to revitalize the area and change the usage from industrial to residential and office spaces. The site’s waterfront location, within walking distance of Bristol Borough’s commercial district, represented an opportunity to attract visitors, create public spaces, and spur revitalization of the downtown area.

Financing came through a mix of government program funds and grants and private real estate developer. Investment in the area was further encouraged by the historic place, enterprise zone, and job creation tax credits offered by the US government.

Current Status
The redevelopment project at Riverfront North, Bristol Borough, Bucks County, Pennsylvania is now home to a thriving community, with hundreds of new jobs created, and a revitalized waterfront with trails and boat access. The Rail Spur Park Walk is now providing access to the waterfront.

It has become a residential neighborhood of choice. The Riverfront North is flourishing, with 112 permanent residents and homes valued at twice the original purchase price.

Lenox became the anchor tenant of the Dial Soap building, occupying 126,000 of the 183,000 square foot site for 12 years, the move created and retained more than 470 jobs. Before redevelopment, the 13-acre parcel at the northern part of the site generated no real estate taxes.

Today, each of the new housing units provides more than US$4,000 in annual property taxes to the borough, school district, and county for a total exceeding US$250,000.
Identify brownfields in your community

Abandoned industrial sites are easily recognized as brownfields. However, communities should also be aware of the less-apparent brownfield sites that if reused, present community and economic development opportunities.

Examples of sometimes-overlooked brownfields include:

- abandoned or underutilized gas stations
- former automobile service facilities
- vacant lumber yards
- former transportation depots or transfer facilities
- abandoned storage sites
- legacy sites of hazardous waste generating industries
- former dumpsites

While typically brownfield sites are abandoned, underutilized sites, you may also consider areas with active operations as potential sites for redevelopment. For instance,

if the current use is causing contamination or if the current use is limiting community and economic development opportunities (i.e. underutilized waterfront areas, easements occupied by informal settlers, areas of informal industries lacking pollution controls, etc.) then it might be worth it to explore the best use for the site. Redevelopment may entail either upgrading facilities, employing re-zoning, and planning for a mix of beneficial use among others.

Assess their potential for redevelopment based on the steps used in the BOA program

Appropriate reuse for a brownfield site should require consideration of the following factors:

**Property characteristics**
- Acreage
- Topography
- Existing improvements
- Infrastructure
- Zoning

**Physical Setting**
- Property features
- Property location and access
- Neighboring land use and municipal development plans
- Relationship of property to region

**Ownership and use**
- Current and historical past uses
- Ownership
- Current owner or purchaser preferences and plans
- Needs and interests of neighboring residents

Economic synergies
- Demographic trends
- Growing industries
- Changing markets
- Opportunities for public-private partnerships
- Available incentives and program

Explore the redevelopment scenarios

- **Private Redevelopment**
  A developer takes responsibility for the entire redevelopment process but may require some limited public investment to first define the extent of contamination.

- **Public-Private Redevelopment**
  In typical public-private partnerships associated with brownfields restoration, the public entity usually sponsors the project and provides some initial funding (often for environmental assessments and infrastructure), and the private sector funds and manages the pre-development and construction phases.
Integrate brownfields redevelopment in your Comprehensive Land Use and Development Plan
Provide an enabling environment where redevelopment is an integral part of a sustainable plan. A synergy in the system is necessary for a balanced and sustainable environment.

Public-led Redevelopment
In a typical public redevelopment scenario, a municipality takes responsibility for the entire assessment and cleanup process. Usually, the municipality takes ownership of the property by foreclosure, eminent domain, or voluntary purchase. Once remediated, the property may be used by the municipality, or it may be sold or transferred to the local economic development authority, a community development corporation, or a developer.

Sources
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