Guidebook on Redevelopment Planning and Financing

Chapter 6
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CHAPTER SUMMARY
1. The purpose of this TA is to address hazardous waste contamination in Indonesia and the Philippines, particularly to advise these governments on the potential to mitigate risks to human health while also planning for inclusive urban growth. This is the sixth chapter of the final report for the TA. The preceding chapter of this report outlined the process for controlling pollution and mitigating risks to human health as well as assessing contaminated sites and undertaking remediation planning. This chapter provides a perspective on
financing for remediation that uses redevelopment as a viable tool for governments to leverage in removing human health risks of toxic sites.

2. The breakthrough idea from this TA is that in many urban areas in low- and middle-income countries with polluted and abandoned or under-utilized sites, redevelopment planning could lead to investment by developers who would take on the cost of remediation in exchange for cooperation from government either through financial incentives, ease of permitting, or expedited approval of remediation and redevelopment plans. This idea, that remediation does not always require charity or government funding, should be considered by governments and site owners making decisions about polluted sites. In some cases, with cooperation from local government, a redevelopment plan by a developer could result in a faster remediation of a contaminated area than government intervention or a charity program alone could deliver.

3. The TA project team included key experts in brownfield redevelopment, urban development, urban planning, architecture, and development financing. They, along with the rest of the project team, assessed contaminated sites in both countries with potential for viable redevelopment investment, and then worked in depth on the site assessment, area demographics and development planning at a pilot site in each country. This chapter outlines on the process for redevelopment planning in general, to be used as a resource for countries looking to make better use of contaminated sites through urban redevelopment.

4. Urban redevelopment and revitalization can be undertaken by local government or even an active community organization in an effort to make more productive or more beneficial use of available but polluted lands. The process of Redevelopment Planning can be broken into five steps:
   - Site Selection
   - Site Assessment
   - Concept Development
   - Remediation Requirements
5. Each of these steps is highlighted and explained in the paragraphs below and in the checklists for redevelopment included in the appendices.

SITE SELECTION

6. In selecting the potential sites, it is important to have a working group of stakeholders involved that represent not only the team that will be leading the redevelopment process, but also government agencies, local advocacy groups, local leaders or leadership association, business groups, representatives of major institutions, housing and real estate professionals, candidate site owners and neighbors, and the public at large. Involving a core group of diverse stakeholders will begin building support for the project and will ensure that all potential objections or restrictions are voiced early on in the site selection process.

7. In some cases, landowners will be uncooperative, unavailable, or unknown. This is not a reason to completely ignore a site that has high potential. It is common for owners of contaminated sites in particular to be hesitant about allowing site investigations or documentation of pollutants at a site associated with their name or business. Rather than forcing owners legally or through threat of government action, it is advised that the development planning progress normally and that the owners continue to be invited and informed about the ideas and potential for the site. It is likely that in the course of the redevelopment planning, as the potential for selling the site or taking on the development project himself or herself becomes more attractive, the initial concerns of being held liable are no longer as important to the owner. The government can help in this regard by offering assurances that the owner will not be prosecuted or further fined if they cooperate with the remediation requirements or if they sell the property. Alternatively, surrounding land owners may begin to cooperate and get onboard with development or begin to profit from the project and then the reluctant owners will see the value of participating. While the government in most cases has legal options to force a clean-up due to high public health risks, working to remediate a site through redevelopment makes it possible to encourage action positively through market forces. In cases where there is no clear owner of a site (i.e.
community property), or it is a government property, the local government may decide to move to take ownership, sell the property to an interested developer, or organize a public private partnership to work on the redevelopment.

8. After a working group is selected for the site selection process, the list of candidate sites can be finalized and the review process can begin. At the early stages of site identification, the team will conduct field visits to the site (if there is access), explore the surrounding area, and collect information on potential contamination and or exposures to the population, estimate the population at risk (if this data has not already been collected), identify site boundaries and approximate size, and observe transportation options and land uses in the areas surrounding the site.

9. The initial field visit data will then be supplemented with background research on each site. In particular, it is important to note site ownership, size, current uses and zoning, and site history including any accidents, flooding, pollution, or other issues. Much of the data can be gleaned from the public or working group members, other information may be collected at the local government office.

10. Next the team should gather information that would affect redevelopment opportunities at the site. This requires data on land uses, public policy, population, and economic growth in the surrounding area. In urban areas, characteristics that affect redevelopment might include:

   o **Physical characteristics** such as the shape of the site, ownership of the site, transportation access to the site, availability of infrastructure (water, electricity, sewers), and subsurface conditions
   o **Economic and fiscal characteristics** of the local area such as the available workforce, recent investment in the area, fiscal (tax) incentives for redevelopment and or remediation, and economic benefits that might be created by the redevelopment
   o **Public policy or attitude** of the local, provincial and national governments regarding remediation of hazardous wastes and urban redevelopment, i.e. officials aware of public health issues, supportive of cleanup, and promoting modern land use controls
o Existing land use patterns and how they serve the local population, for example open space and quality of life, the need for neighborhood improvements (e.g., housing, roads, drainage) and the availability of other potential sites for redevelopment

11. Once all the data has been collected, the stakeholder group can begin to compare the sites in order to make a selection. This requires a rating system with key decision-making factors and relative importance of each that must be agreed on by the stakeholders. A matrix can be developed with each selected characteristic to be screened for and a suggested range of importance (from least (1) to most (3) for example). The matrix will allow assessment of the potential to redevelop each site by rating the difficulties or constraints to redevelopment and the level of opportunity. Suggested ratings could range from 0 (significant constraint to redevelopment) to 4 (significant opportunity for redevelopment) for example. The sites that have a higher potential for redevelopment can be filtered from the list by multiplying the importance of the site characteristic (1, 2 or 3) by how that characteristic would affect the potential to redevelop the site (0, 1, 2, 3, or 4). After the results for each site are summed, the site rating can be compared. The results of the matrix exercise will likely indicate 1 or 2 top sites that can then be discussed among the stakeholder group and a redevelopment site can be chosen. Top scoring sites that are not chosen may be saved as potential redevelopment projects for the future.

SITE ASSESSMENT

12. A detailed site assessment will be conducted after the redevelopment site is chosen. The working group for the next phase of the project will likely be a subset of the original site selection group with one or two additional experts added to the group. In assessing the site for redevelopment, the team should spend time physically exploring the site and the surrounding areas as well as interviewing people, and gathering data from local government, developers, real estate agents, construction companies, and loan providers. Detailed data must be collected including:

o Geographic Characteristics: mapped boundaries, precise size, presence of wetlands, steep slopes, water bodies, depth to ground water, vegetation, developed area, location, extent, type, and depth of contamination
13. In order to research the area in which the site is located, a Primary and Secondary Study Area may be delineated. A Primary Study Area, depending on size of site to be redeveloped, is usually defined by a radius of from 200 to 500 meters from the boundary of the redevelopment site. Physical barriers, such as a large water body, steep grade change, or a highway or railroad that allows no access across may also define the area. A Secondary Study Area may need to be defined, depending on the size of redevelopment site. If a Secondary Area is used, it would likely be defined by a radius of from 500 to 1,500 meters from the boundary of the redevelopment site. Physical barriers may reduce the size of the secondary study area. Once these Primary (and potentially Secondary) areas are identified, researchers can assess the geographic characteristics, existing infrastructure, owner profiles, land uses, physical characteristics, and potential constraints or opportunities within that zone as they reflect on the identified redevelopment site.

LAND USE ASSESSMENT
14. For the Primary Study Area, the team should assess existing land uses using field survey, aerial maps and secondary sources (for example Planning Department documents) as relevant. The land use information to be collected includes:

- low- and medium-density residential uses
- multi-family and other high density residential uses
- institutional uses (schools, religious institutions, government offices, hospitals, prisons, etc.)
SITE CHARACTERISTICS

15. The team should also identify and map site characteristics that would be relevant to redevelopment potential and contribute to neighborhood character in the study area. These may include:

- key resources
- historic buildings or tourism sites
- natural resources
- major institutions

16. Additionally, the team should research public planning and zoning policy affecting the site, and any problems that could constrain or prevent development, for example lack of sewer, water, power, access or any conflict with land use policy.

17. If a Secondary Study Area is also being included, the team should map existing generalized land use patterns, with a focus on recent or anticipated land use changes, particularly for larger developments and identify key resources, e.g., historic buildings, natural resources, major institutions, and other features that contribute to neighborhood character in that study area as well.

Economic Opportunity

18. In order to assess sites for redevelopment opportunity, it is important to know the potential for supporting a housing, retail, business park, or industrial zone development. The team should review key population, housing, and employment data in the primary and secondary study areas. Each of these key research areas is highlighted below and included in the
checklists in the appendices. This data will inform the redevelopment planning and will be used to determine the value of various land uses, the likelihood of success, the costs of the development and the anticipated return on the investment.

**Population Data**

19. Residential population data for the closest year available is important; as is data for smaller areas (e.g., villages, census tracts) as available. Ideally, the team can also characterize the population by number of households, gender, age, household size, ethnicity, education, income, work force, and types of jobs that residents hold, and any historical trends or future predicted trends (demographic shifts).

**Housing Data**

20. For residential data, the team should assess housing conditions in the study areas: number of units, vacant versus occupied rates, presence of informal units or settlements, the type, size, age and condition of the housing stock, the percentage of residents who rent or own, and the tenure of ownership.

**Employment Data**

21. It is important to assess employment data for the study areas; if not available, employment data for a larger area (city, province, or region) relevant to the site can be used. The team can use this information to identify major employment sectors such as manufacturing, business, educational or social services and map the locations of major employers that would impact future development opportunities, such as:

- major businesses and commercial developments (e.g., manufacturers, service, supply or transportation related businesses, shopping or major retail outlets, office buildings)
- large institutions including hospitals, clinics and other health care, universities, colleges and schools
- cultural resources such as tourist attractions or places of worship
Demand for Goods and Service

22. The redevelopment team also should assess the demand for additional goods and services in the study area based on changes in population size and demographic characteristics, observed land use patterns, employment characteristics, and income and/or spending characteristics. In addition, recent land use trends and/or signs of recent private capital investment or public infrastructure improvements can be used to identify and evaluate potential development pressure on the redevelopment site by national and/or provincial socioeconomic trends. Local developers, real estate agents, construction companies, or loan providers can be valuable sources to indicate these types of trends.

CONCEPT DEVELOPMENT

23. In order to frame ideas and alternative concepts for redevelopment, the project team should create a list of goals and objectives for development of the site. The data gathered in the site assessment can inform the development of concepts that are in line with local trends and regulations, economically viable given the local housing and business market, and desirable by local stakeholders. Creating a list of goals and objectives for redeveloping the pilot site may require more than a single meeting to build consensus and reach agreement. Where possible, consensus-building meetings should be held in the vicinity of the project site and ideally in an open forum where local stakeholders feel comfortable. There may be more than one meeting held depending on site size and availability or proximity of government decision-makers.

Anticipated results of redevelopment

- An economic benefit for the study area(s)
- Increased property values
- Net new property, personal income, and business tax revenues for the government
- An improved quality of life for the community
24. It is important that the planning phase be undertaken in concert with stakeholders from the vicinity of the pilot site, both residents and business owners, as well as with local, provincial and/or national government officials who are aware of issues related to contamination on the pilot site and the need to remediate these conditions to restore public health and safety. Government officials should be encouraged to share any knowledge of major improvements proposed or planned for the area, such as new sewers, water or electric service or transportation improvements such as new roads or transit systems. Local residents and business owners should be encouraged to share their vision of the future in and around the pilot site.

25. The redevelopment team should approach the planning meeting(s) with an open mind. In order for buy-in and community support, it is important to gather feedback and ideas from the stakeholders, not present already formulated plans to them for approval. The stakeholders may present new interesting ideas that the team had not considered, raise additional concerns that should be investigated, or identify other trends in the area. The meetings can include guided discussions, brainstorming or visioning sessions, presentations from other cities on successful redevelopment projects, and presentations by government, public health specialists, remediation specialists, and if relevant, industry best practices or alternative livelihoods specialists.

26. After the planning meeting(s), initial redevelopment concepts can be drafted. Redevelopment concepts should be appropriate for the size of the site and sensitive to surrounding land uses to the greatest extent possible. Local zoning will guide the types of land uses that would be appropriate for the pilot site. For example, a heavy manufacturing plant would not be appropriate for a pilot site surrounded by residential dwellings. Likewise, consideration should be given to the location of transportation routes and types of transportation modes in the vicinity of the pilot site. For example, the availability of public transit close to the pilot site would increase its suitability for denser types of development such as residential subdivisions, labor-intensive business or industry and tourist attractions. Redevelopment concepts should not create new or undue burdens on pedestrian safety and vehicular traffic in the vicinity of the pilot site. Any conflicts between the plans under
consideration and zoning and land use policies and public plans should be identified. Zoning changes and other modifications to land use controls and policies could be recommended and further pursued.

27. Redevelopment concepts also should respond directly to population and land use trends in the study area(s). For example, residential development could be recommended where there are clear trends in population increase. Residential development should be geared to the housing demand (or shortage) generated by households already living in the study area(s) or by new households moving into the area. Business and commercial establishments could be recommended where there is demand either from increased earnings or proximity to natural resources or special labor skills. Any recommended business and/or commercial development should be sensitive to the human and natural environment in the area. A development plan could also respond to demand or shortages identified in education or health care, cultural resources, or open space or recreational sites.

28. Additionally, redevelopment concepts should take into consideration the contamination at the site, the remediation methods possible, and any land use restrictions that may result from the remediation. For example, contamination that will be excavated and then put into a landfill built at the site would have restrictions on digging or building, requirements for drainage or venting systems, or would limit the amount of buildable space and adjoining land uses at the site. The remediation will be considered more fully once a concept has been chosen, but if the anticipated remediation is going to clearly put limits on future development it must be taken into account early on in the process to avoid unnecessary repetition of the process.

29. Overall, the redevelopment planning process should result in one or more concepts that provide: (1) an economic benefit for the area by creating jobs or providing housing, goods, or services, (2) increased property values, (3) net new property, personal income and business taxes for the various branches of government, and (4) improved quality of life for all residents and employees in the area.
30. Once development goals and objectives are agreed on and development concepts elaborated, appropriate members of the project team should draft at least two alternative plans for redeveloping the site. These plans should include one or more land uses designed to achieve the stakeholder goals and visions identified in the prior meetings with the project team, community and government officials. The conceptual plans should be produced with enough detail to easily demonstrate the various components to stakeholders who might be unfamiliar with plans and architectural drawings.

31. At a minimum redevelopment plans should show:

- boundaries of the site and adjacent land uses
- land coverage and massing of buildings on the pilot site
- proposed occupancy or land uses in each of the buildings
- vehicular and pedestrian access to and through the site
- location of parking
- location of open space (if any)
- drainage plan and/or features to control flooding and urban runoff
- detailed information on the total amount of gross building area, building area by use, number of parking spaces

32. A simple sketch of each draft plan should be prepared to provide stakeholders with a three-dimensional picture of what the redevelopment would look like. However, architectural details such as design of facades or materials to be used in construction are not required at this point; neither is it necessary to provide costs estimates at this point.

33. After the sketches and concepts are available, stakeholder groups (residents, businesses, government officials) should have an opportunity to review and comment on the draft plans at a public meeting and potentially also through a series of presentations and reviews in a public space meant to attract passers-by (at a local transportation hub or shopping center for example). The project team should consider the comments, revise the conceptual plans and incorporate suggested changes, where appropriate. The products from the community
review meeting(s) should result in one or two development plans that are at least satisfactory to the community and other stakeholders.

REMEDIATION REQUIREMENTS
34. Once the “draft” development plans are agreed upon, the costs of implementing each plan must be estimated. At this point, standard industry costs for appropriate types of building construction, required infrastructure, and expected labor could be used to generate a “ballpark” estimate of overall costs. This initial estimate should be made without regard to remediation of hazardous materials that may be present on the site.

35. A separate assessment of potential remediation options and an estimate of remediation costs should be provided by engineering and environmental professionals. Details regarding this process are outlined in Chapter 5 – the Guide to Remediation Planning.

36. It is important to do the remediation and redevelopment planning in concert because different levels of contamination call for different remediation methods, future land use may be impacted, and different redevelopment concepts will require different levels of remediation. For example, building an apartment complex or a kindergarten would require a very different level of remediation than an industrial zone or a parking lot. For the purpose of overall project cost estimation, adding remediation costs to development costs provides a summary view of the magnitude of the project. This initial estimation is likely to be quite high as estimates are meant to be conservative and the initial estimate will not have any subsidies or incentive programs included. An initial, high estimate should not discourage the project team. There are several alternatives for addressing remediation costs so that they don’t derail redevelopment of the pilot site. Financial feasibility and commonly used financing strategies are detailed in the sections below.

FINANCIAL FEASIBILITY
37. An important component of development and remediation cost considerations is a clear understanding of the benefits of the redevelopment project. Will it eliminate or contain contamination from hazardous materials and threats to public health and safety? Will it
provide new jobs and to what extent? Will it provide new housing resources and to what extent? Will it provide necessary services that cannot be achieved at another site? Will it create new cultural resources, open space or recreation that will elevate the quality of life of residents and employees in the study area(s)?

While the answers to these questions may not be included in the financial analysis, they are key considerations in the decision-making process.

38. In the target countries of this TA, all previous remediation efforts have been made from the viewpoint of public safety and government responsibility rather than in consideration of the economic value of the site if redeveloped. An ideal outcome of this TA is that governments can look at contaminated, underutilized sites as potentially economically viable on their own – with a view that remediation costs could be absorbed by developers if the redevelopment of a site can produce income over a reasonable period of time and that sites to be remediated may attract private investment to what was previously only thought of as a government or charity-funded remediation project.

39. Estimating the economic benefits of the redevelopment plans will depend on the statistical resources available for such an analysis. The project team should check with appropriate government offices, most likely economic development officials at the national level, to see if econometric models are available for estimating economic impacts. If econometric models are not available or are not applicable to the redevelopment proposed for the site, project team members should conduct enough research to estimate the economic benefits that would be generated by the redevelopment plans. This research may require sampling economic uses similar to those recommended for the redevelopment site in an attempt to predict the number of jobs that would be created. For example, interviewing the manager of
a bank, retail store, restaurant, shopping center, factory or clinic to identify the number of employees and the wage scale.

40. At a minimum the project team should estimate the following:

- value of construction of all components of the development plan
- number of jobs that would be created at the site both during construction and during annual operation (one stabilized year) of the activity on the site
- income that would be earned by employees on the site both during the construction phase and during annual operations on the site
- taxes that would be paid by individuals working on the site during the construction phase and annual operations (based on personal income)
- taxes that would be paid by businesses and corporations located on the site during the construction phase and annual operations (based on materials, sales or revenues)

41. While it is beyond the purpose of the financial analysis to estimate the economic value of intangible benefits such as the addition of open space in a neighborhood or improvements to public health and safety, it is still important to describe how such changes would improve the quality of life of residents and employees in the area, as well as the competitive position of certain businesses and services in the existing area. In the absence of adequate data and statistics to quantify the economic benefits of the draft redevelopment plan, a qualitative assessment of how the plans would affect the economy and quality of life should be undertaken.

**Revenues and Operating Costs**

42. Comparing development costs and remediation costs presents only part of the feasibility picture. To better assess the feasibility of implementing the plan, the project team also should estimate the amount of revenue that would be generated by the various components of the planned development. Industry and/or government publications should be consulted to determine the rents or sales prices that could be charged for occupying or purchasing facilities developed on the site. Revenues should be projected for a 10- or 20-year period including a reasonable allowance for inflation. Similarly, operating costs should be projected
44. Measuring the economic and social impacts of the redevelopment plan will indicate how the remediation costs could be shared by the public sector alone, by the entity responsible for the contamination, by the private sector developer, or by a combination of two or all of the involved parties. In a Public-Private Partnership the public sector (government) typically pays for improvements to property that will benefit the public, particularly if such costs are prohibitively high and threaten the implementation of a redevelopment project that has broad public approval. For example, the government may pay for the remediation of a contaminated site because it will remove a threat to public health and safety, while permitting the private sector to invest in the redevelopment with the potential to create economic benefits and a reasonable return on its investment. Government participation in the implementation of a redevelopment plan could often be the difference between a project being financially feasible or not for private investors.

44. If the public sector is not willing to participate in the remediation of a contaminated pilot site, or if its participation would significantly delay the implementation of a redevelopment project, a private developer may use his or her own equity to remediate a site. In return for assuming the financial burden and risk of remediating a contaminated site, the private sector may seek to recover the expense in remediating a site through tax relief (such as moratoriums on paying sales tax on construction materials or property taxes for a number of years). The private sector may also seek to balance the additional cost of remediating a pilot site by applying for low interest loans from the government, where available. While it is not necessary, cooperation from government can make this option more attractive for potential developers and can make a remediation project more likely to be successfully completed. The financing options that were outlined for the pilot sites in each country as
part of this TA did not take any incentive programs into account and both development options were still shown to be potentially profitable investments over a 10 year period.

FINAL DEVELOPMENT

45. After financial feasibility and economic benefits are assessed, the project team should return to the stakeholders again with a more detailed picture of the development options. Meeting with the stakeholder group, the project team should facilitate the process of creating a final plan for the site. This process may require more than one meeting to achieve a consensus among the stakeholder participants, and may also require the merging of preferred components in each draft plan into one final plan. If budget and time permit, the project team should create a three dimensional rendering of the finished plan. Detailed drawings are not required but helpful as a graphic aid in presenting the final plan to the stakeholders. Cash flow estimates and financing strategies should be adjusted and carefully explained as necessary. Where possible, the public contribution to a public-private partnership should be elaborated and the steps and timetable required to secure the public investment should be identified. Ideally, local government would be onboard with the plan and excited to partner with potential investors, seeing redevelopment as a positive opportunity for the otherwise contaminated and under-utilized site.

46. The final plan can then be shared with potential private sector developers, investors and financial institutions. The project team, with participation of the stakeholder group, should identify likely participants in the private sector and present the plan, which should be portrayed as a “template” for redeveloping the site. The project team can gauge and evaluate the level of interest on the part of the private sector and tweak the presentations as needed. It is at this point in the process that the project team should hand over the implementation to a stakeholder working group that will commit to working with local government and developers to implement the plan. Further negotiations among the interested parties (government officials, private developers and the stakeholders) should be managed by the stakeholder working group until such time as a public-private entity is formed to implement the plan or until a developer has committed to the project, negotiate
with owners of the pilot site, and work to form their own strategies for financing the redevelopment.

47. A primary problem in addressing contamination in communities such as the ones selected as pilot projects in this study is the cost of cleanup. Land that could be productive and important in a community ends up sitting abandoned or used inefficiently because it is polluted and seen as too expensive to address. Even when communities or governments mobilize to respond to a serious pollution issue, it often ends up stalled or incomplete after the costs are calculated and key stakeholders become discouraged that it is unaffordable. At worst, people continue living and working on contaminated sites and slowly poisoning themselves and their children. This project seeks to respond to that concern by providing guidelines for communities to use to identify sites that could be redeveloped successfully and become draws for developers. These redeveloped sites will generate income, either through housing sale or rents, through retail, industrial, or office space rents, or through government subsidy for local open space or quality of life projects. This is an exciting possibility for governments facing the challenge of polluted land that will require a hefty budget to remediate. If a developer can be shown that the land could be redeveloped and revitalized and then make enough money to re-pay the cost of remediation, there will be a shift in how polluted sites are viewed. While the costs of remediation may be staggering, it is important to always compare that number with the potential earnings of a site after redevelopment. The results of the project team’s work at the pilot sites are encouraging as examples of how polluted, under-utilized sites can be remediated and redeveloped and then provide returns on the investment. The details of the pilot site projects in both Indonesia and the Philippines are covered in the Strategic Urban Redevelopment Plans in Chapters 3 and 4.