Environmental Assessment Sourcebook UPDATE

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Cultural Heritage in Environmental Assessment

Cultural heritage is a record of humanity's relationship to the world, past achievements, and discoveries. Much of this heritage in developing countries is now under threat, partly as a result of modernization and development, and the rate of loss is increasing. If archaeological and historical sites and structures are allowed to disappear, important testaments to a society's creativity and the knowledge base for shaping the future will be lost. Fortunately, although the loss of heritage is irreversible, it is often avoidable. Effective protection is based both on an understanding of cultural heritage issues and appropriate assessment and action to minimize damage or loss.

This Update draws attention to the importance of cultural heritage in the environmental assessment (EA) process and suggests ways in which the EA process can help protect heritage. The Update replaces the guidance provided on this subject in chapter 3 of the EA Sourcebook.

Cultural heritage, also termed cultural property, cultural patrimony or cultural resources, can be defined as the present manifestation of the human past. It refers to sites, structures, and remains of archaeological, historical, religious, cultural, or aesthetic value. In conserving this heritage we are conserving those elements of our past that have the potential to contribute to our understanding of human history. (See box 1 for some key concepts and table 1 for examples of cultural heritage.)

Conservation of cultural heritage promotes social cohesion by affirming the significance of past artistic, scientific, or cultural contributions. Many sites play a very important role in demonstrating a community's cultural continuity and long-term survival. Conserving heritage extends focus beyond everyday allegiances and in so doing gives a longer time perspective. As the legacy from past to future generations, it is part of the concept of intergenerational equity. It is incumbent on the present generation to conserve patrimony for coming generations.

Cultural heritage is of economic importance as a productive activity. Many heritage sites are currently used for such purposes as housing, schools, health centers, museums, concert halls, offices and parks. Tourism, a multi-billion dollar industry, is heavily dependent on cultural heritage; the associated revenue potential can be an important source of income for maintaining the site. Conservation also tends to be labor-intensive and can be an important source of jobs, as has been demonstrated in Bank-financed projects in Mexico and Honduras. Indirect spin-offs can benefit the construction and service industries.

Development projects, when improperly designed, can damage cultural heritage and diminish its value through unregulated building activities, the conversion and degradation of habitats, environmental pollution, or the disruption of traditional ways of life. Because impacts can occur *before* (through destruction of sites prior to project startup), *during* (by the construction itself), and *after* the project (due to physical changes and changes in settlement patterns), vigilance is required in all phases of project preparation and execution. It is also important to remember that not all cultural heritage is known in advance, making it even more necessary to proceed carefully with earth-moving and other activities that might damage or destroy heritage. When planned and executed with due care, development projects may lead to important new finds—such as the spectacular Aztec remains that were found during the construction of the Mexico City metro and are now an important tourism site.

Cultural heritage in international and national law

Cultural heritage is legally protected in almost every country. The Convention for the Protection of the World

Box 1. Key terms in cultural heritage

The following definitions of the major processes involved in safeguarding heritage are consistent with the Burra Charter (revised in 1992), Australia's International Committee on Monuments and Sites (ICOMOS) charter for the conservation of places of historic significance. Experts consider the Burra Charter one of the most comprehensive and up-to-date statements of conservation principles.

Conservation. Encompasses all aspects of protecting a site or remains so as to retain its cultural significance. It includes maintenance and may, depending on the importance of the cultural artefact and related circumstances, involve preservation, restoration, reconstruction, or adaptation, or any combination of these.

Preservation. Maintaining the fabric of a place in its existing state and retarding deterioration. It is appropriate where the existing fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out. Preservation is limited to the protection, maintenance, and, where necessary, stabilization of the existing fabric.

Restoration. Returning the existing fabric of a place to a known earlier state by removing accretions or reassembling existing components without introducing new materials. It is appropriate only (a) if there is sufficient evidence of the earlier state of the fabric, and (b) if returning the fabric to that state reveals the significance of the place and does not destroy other parts of the fabric.

Reconstruction. Returning a place to a known earlier state, as nearly as possible. It is distinguished by the introduction of materials (new or old) into the fabric. Reconstruction is appropriate only where a place is incomplete through damage or alteration and could not otherwise survive. Reconstruction is limited to the completion of a depleted entity and should not constitute the majority of the fabric.

Adaptation. Modifying a place for compatible use. It is acceptable where the adaptation does not substantially detract from its cultural significance and may be essential if a site is to be economically viable.

Maintenance. The continuous protective care of the fabric, contents, and setting of a place. Maintenance is to be distinguished from repair, which involves restoration or reconstruction.

Cultural and Natural Heritage of 1972 has become the foundation for national and other legislation since it requires signatories to adopt general policies; establish appropriate organizations and services; and develop legal, scientific, and financial measures for the protection and conservation of cultural and natural heritage. The World Heritage List, sponsored by UNESCO, also encourages protection and to date includes more than 350 cultural sites of exceptional interest and universal value.

At the national or state level, there are generally four kinds of legislation relevant to cultural sites: (a) heritage place protection acts that specifically protect particular places (or places as a class) and specify procedures for their protection; (b) land management, zoning, or planning acts that provide general protection for sites; (c) notification or listing acts that allow for the recording of important data on cultural sites; and (d) acts to conserve natural areas in which cultural features are located. In many countries, religious laws also address cultural heritage and in some cases, assign ownership or oversight responsibilities to various religious authorities.

Cultural heritage in World Bank work

The Bank considers the conservation of important cultural heritage a part of the sustainable development process. It assists countries in their efforts to conserve, maintain, and where feasible, enhance and restore their cultural heritage. GP 4.11 (final draft) provides guidance on what the Bank considers as good practice in these regards.
The Bank uses environmental assessment as one of its main instruments to ensure that development projects do no result in unacceptable damage to cultural heritage. Table 2 shows how cultural heritage issues can be addressed throughout the Bank's project cycle and the corresponding EA process established by OD 4.01. The following discussion highlights some particularly important aspects.

Environmental screening

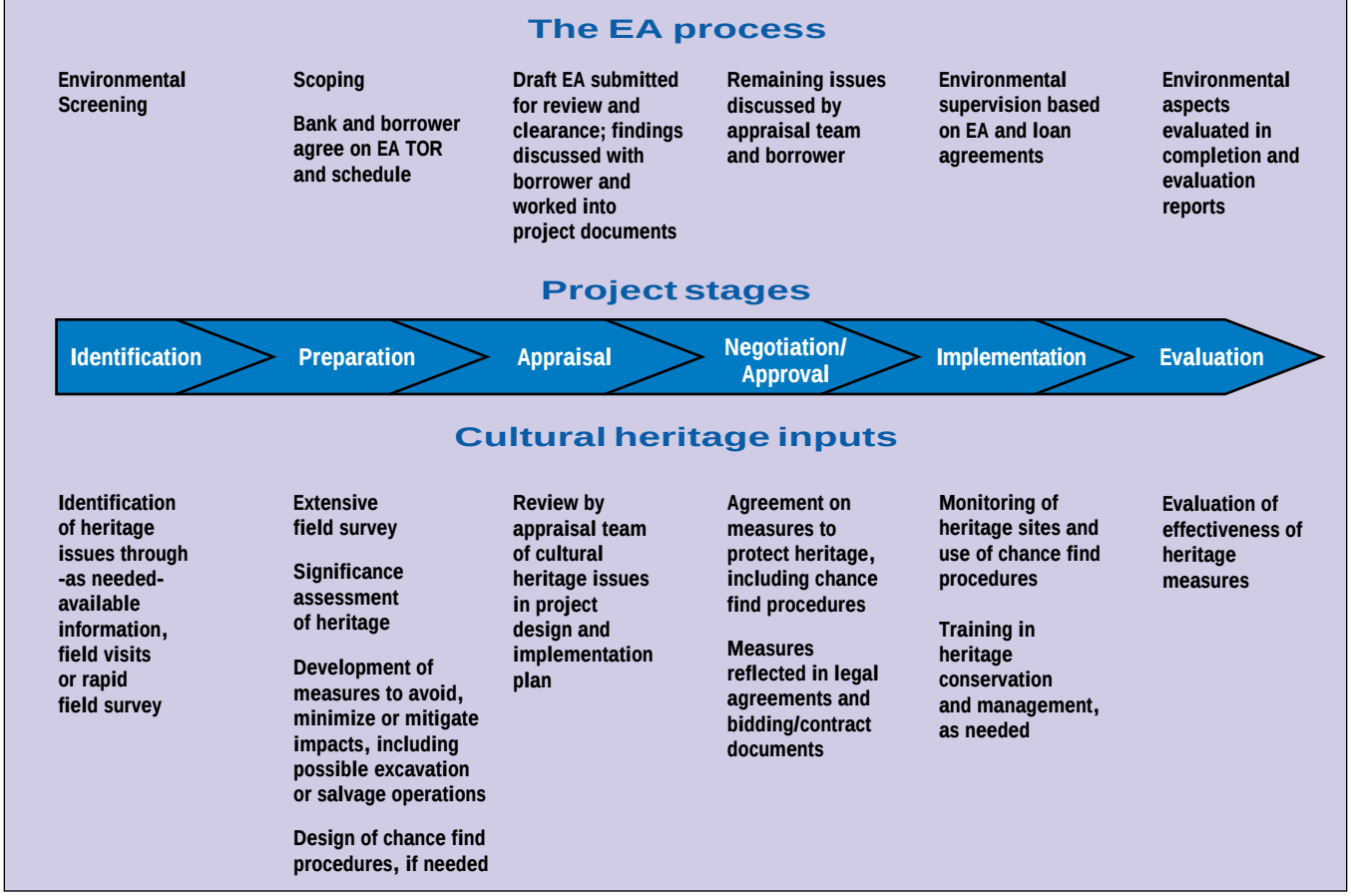
Many types of development projects can have a direct adverse impact on cultural heritage. The task manager, in consultation with national or local cultural heritage authorities as necessary, should review potential direct or indirect impacts to cultural heritage as a standard and central part of the environmental screening process (see *Update* no. 2: *Environmental Screening*).

When there is reason to expect significant impacts on cultural heritage along with other environmental impacts, the project should normally be classified as category A and be subject to a full EA. If there are no other major potential impacts on the environment, a full EA may not be the most appropriate solution. A category B rating followed by a rigorous and detailed analysis of the issues and impacts specifically related to cultural heritage may be more useful and cost-effective. Projects with limited potential impacts on cultural heritage should also be classified in category B unless other environmental impacts warrant full EA work. The category B analysis normally includes a full inventory of the cultural heritage resources; analysis of alternative sites and designs that would eliminate or reduce the adverse impacts; and a plan to mitigate damages and manage the heritage. The analysis should

Table 1. Selected types of cultural heritage sites

Main categories	Sub-types	Examples	Comments
Sacred sites	Burial sites	Xian, China; Tomb Fields, Bahrain.	They are often discovered during the construction phase of projects. The Liaoning Environment Project in China will help conserve ancient burial sites.
	Sites of religious or spiritual significance	Mecca, Saudi Arabia; Buddhist pilgrimage sites in Nepal.	Important cultural sites were often inspired by religious beliefs and are still considered sacred places.
Archaeological sites	Pre-historic sites	Mounds, middens, caves.	These sites are often undetected or overlooked. They frequently shed light on use or overuse of natural resources, changing survival strategies and social organization.
	Historical sites	Historic roads, bridges, dams and other water works, fortifications, and walls.	Many of these structures are still in use, such as Roman roadways in Tunisia or hydrological features in Indonesia. They may also point to changes in sea level, vegetation, and hunting and agricultural practices.
	Engineering and industrial sites	Marib Dam, Yemen; The Great Wall, China; nineteenth century industrial sites (train stations, early woolen mills).	The introduction of new technologies—metallurgy, mortars, arches and vaulting, industrial architecture—can be documented and understood by studying artifacts and earlier structures. This in turn may suggest methods for conservation and may shed light on future avenues of technological advance. Bank projects have been involved in the conservation of some of the world's greatest feats of engineering, including the Marib Dam in Yemen and The Great Wall of China.
	Submerged or marine sites	Ancient coastal settlements in the Mediterranean and Central America; sunken ships.	New techniques of marine exploration have revealed many sunken ships and submerged sites of ancient human settlement.
	Sites within biologically diverse areas or protected reserves	Tikal, Guatemala; sacred groves in Ghana.	Management policies that protect both cultural and natural resources should be developed.
Monumental sculpture	Cave sculpture	Chinese and Indian Buddhist cave sites.	The protection of these sites depends on an understanding of the processes of deterioration that may affect them.
	Architectural sculpture	Thebes, Egypt; Petra, Jordan.	Exterior sculpture is often damaged by polluted air and rising water tables.
Monumental painting	Cave or wall painting	Tombs in Luxor, Egypt; Tassili, Algeria.	Conserving wall painting, in the face of large tourist flows, requires careful planning.
Architecture and town planning	Monumental architecture	Monte Alban, Mexico; Copan, Honduras; Wat Phu, Laos.	Great works of architecture and urban planning demonstrate the introduction of new design principles and construction techniques.
	Indigenous or vernacular architecture	M'zab Valley, Algeria.	Local materials, such as wood, mud brick and stone, were used to build extraordinary architectural compositions.
	Historic settlements and town centers	Fez, Morocco; Quito, Ecuador.	The protection of the historic core of cities depends on a comprehensive policy to address infrastructure and social needs.
Historic landscapes	Cultural landscapes	Cres, Croatia; land of the Dogon, Mali.	Landscapes, whether designed, organically evolved or relict, demonstrate mankind's responses to changing environmental conditions.
	Historic parks and gardens	Sigiriya, Sri Lanka; Shalimar Gardens, Pakistan.	Returning gardens to their original appearance may require research into plant materials.
	Trade routes monuments and remains	The Silk Route from China to Europe; Pan-African trade routes; Mediterranean-wide commerce.	Remains of ancient trade routes document early trade relations and cultural connections. Trading patterns, often long distance, are revealed in archaeological finds such as ceramics, metalwork, coins, or paleobotanical evidence.

Table 2. Cultural heritage and EA



also include a review of existing rules and procedures to manage cultural heritage affected by the project. Projects with no impacts on cultural heritage or the environment more broadly should be classified in category C. Education and institution-building projects are often classified in this category; however, attention should be paid to changes in the use of historic structures to ensure this is done in a proper manner and does not degrade their aesthetic or historical value.

Experience in Bank and non-Bank development projects has shown that certain sectors are particularly prone to affect heritage: energy (construction of gas pipelines, utility lines); communications (laying of fiber optics); transport (highways, road construction or extensions, bridge replacement, canal construction); water (dams, irrigation and drainage schemes); sewerage and sanitation; urban development (infrastructure provision); industry and mining; agriculture (intensification and extensification); and forestry. Emergency reconstruction projects due to earthquakes, flooding or other disasters may have important consequences for cultural heritage.

For projects where cultural heritage impacts are likely or possible, it is good practice for Bank staff to consult the cultural resource specialist and cultural heritage research files in the Environment Department before making the environmental screening decision. In addition to material on national legislation, inventories, and specific sites, the files contain lists of institutions involved in cultural heritage work and researchers that can be important sources of further information, particularly for the Middle East, North and Sub-Saharan Africa, and Asia.

Consultation with appropriate local and international experts is advisable in project identification to gain an overview of potential cultural heritage issues. A literature review can also bring relevant information to light. The legal status of affected sites should be noted as certain categories of cultural heritage may be under particular restriction.

Staff will often discover that adequate information is not available for a particular area. This is particularly commonplace in Sub-Saharan Africa where very few areas have been surveyed. In cases where little investigatory work has been carried out, an earthmoving project is slated to take place, and the area is suspected of having prior habitation, it is strongly recommended that field surveys be carried out in order to avoid unnecessary destruction of cultural sites. Rapid field surveys are an essential diagnostic tool in determining the sensitivity of a particular area.

Preparation of EA terms of reference (TOR)

If significant cultural heritage is thought to exist, experts should be assigned to the Bank project team to prepare a detailed TOR for heritage-related work as part of the EA process. The TOR should be guided by the nature of the likely cultural heritage issues and explain what needs to be done under each main section of the EA report (see below). This may require the services of an archaeologist experienced in field surveying; a conservation architect; a landscape architect or site planner with experience in planning archaeological and historic sites; a cultural resource planner; or a structural engineer.

The TOR may call for various types of investigations including: documentary research; locational surveys; environmental sampling; archaeological tests; archaeological surveys to determine location, integrity, and significance; archaeological monitoring and data recovery; and salvage excavation. Specifications will depend on the terrain, likely types of finds, and their presumed importance and condition. The TOR may also request a significance assessment (see below) and economic analysis. Sample TORs are retained in the files of the Environment Department.

The time frame for cultural heritage work should be indicated in the TOR. Although it is difficult to generalize, for a project with a clearly defined geographical area, such as a road alignment or pipeline, typically the necessary survey work can be carried out in a period of two to six months in the field. This varies according to the conditions on the ground and quality of logistical support available. Three major inputs must be planned for assessment: background research and preparation and design of research strategy; assessment survey and / or excavation, including recording and recovery; and post-field analysis and report writing. Salvage operations, again depending on the extent of the material, can also normally be completed within two to six months. Allocation of adequate funding to assess cultural heritage issues in a timely manner is essential.

Where multiple development activities may affect the cultural heritage within an entire region (for example, an urban or urbanizing area, a coastal zone, or a river basin), the Bank should recommend the use of a comprehensive regional approach to impact assessment and management of heritage (see box 2). *Regional EA* can be an effective instrument in this regard (see *Update* no. 15: *Regional Environmental Assessment).*

Appraisal

Project appraisal is contingent on receipt of an EA report of satisfactory quality. Where there are significant cultural heritage issues, the report should contain specific sections concerning these issues, including proposed mitigation, monitoring and institutional strengthening measures as appropriate. Staff with knowledge of such issues should assist in the review of the EA report.

Box 2. Cultural heritage in the urban setting

Building cranes and new cars may indicate a growing economy, but at a time of rapid urban expansion in much of the developing world, heritage is under severe threat from uncontrolled construction, demolition and vehicular traffic. Polluting industries and high population densities are other factors that put heritage as well as inhabitants at risk.

A frequent constraint to adequate protection is the conservation focus on individual historic buildings, rather than groups of buildings or districts. Buffer zones and development controls are needed to prevent the unregulated building that destroys context. Bank experience, for example in Kathmandu, Nepal, points strongly to the need for area conservation in order to adequately protect the historic urban fabric.

Urban land markets may ultimately work against conserving heritage, as the opportunity costs for the conservation option are too high to resist. Historic city centers, however, are generally characterized by intense economic activity and often serve local as well as regional markets. Such historic centers, when properly conserved, can become centers for commerce, tourism, culture, and social life.

For projects with major cultural heritage issues, relevant expertise should be part of the appraisal team. Appraisal is a good opportunity to discuss with the borrowing country the steps needed to put in place or strengthen capacity and procedures to manage and protect known heritage sites as well as address unknown heritage through chance find procedures or a watching brief (needed for unexpected discoveries of previously unknown buried sites and features during excavation and construction).

The *Project Implementation Plan* (prepared by the borrower) should be carefully reviewed to ensure that cultural heritage measures are incorporated, as appropriate, on the basis of the EA.

Supervision

Development projects are an opportunity for improving the protection and ensuring the future use of cultural heritage. During project implementation, Bank staff should monitor the project impacts on cultural heritage that were identified during the EA, as well as keep careful track of any new impacts. Chance find procedures should be included in construction contracts and compliance with them supervised by the Bank. Supervision missions should schedule staff time for following these issues and revising project mitigation measures as required to ensure adequate protection for significant cultural heritage.

Evaluation of the handling of cultural heritage issues includes looking at the enforcement of relevant legislation (especially in regard to land use and zoning), the performance of mitigation and monitoring activities, adequacy of technical solutions, staffing, cost effectiveness, and institutional and administrative effectiveness. Particular attention should be paid to the adequacy of monitoring and management plans for cultural heritage. Training in heritage conservation and management should also be an element of projects with major heritage issues.

Cultural heritage in the EA report

The EA report should integrate cultural heritage aspects in a flexible way according to the specific circumstances of the project. When heritage is the main concern, the EA should reflect this by focussing mainly on ways to avoid, minimize or mitigate damage to this heritage and improve its conservation. More frequently, cultural heritage will be one among several environmental issues. The following discussion shows how the main sections of a full EA report can effectively address cultural heritage, whether it is the principal or one out of many environmental issues.

The policy, legal and institutional framework

The framework for protecting and managing cultural heritage should be examined early in the EA preparation process. Where adequate laws, procedures (including chance find procedures), and institutional capacity are not yet in place, the EA should identify the gaps and weaknesses and suggest how the project itself might help protect threatened heritage through special, targeted measures (for example, design alterations, a special project component to conserve heritage, or special procedures and requirements for construction works) and ways to strengthen government capacity in the long term.

Chance find procedures are usually a matter of national law. They specify the authorities and responsibilities of cultural heritage agencies if sites or materials are discovered in the course of construction and include procedures to be used by the cultural heritage agency, project sponsor and construction contractor. The procedures should specify how cultural heritage authorities are notified, the waiting period required before work can resume after a chance find has occurred, and measures for care of found objects. In the absence of national chance find procedures, the Bank should require that the borrower prepare specific procedures for projects where risk of encountering buried sites may exist. These procedures should be included as standard provisions in construction contracts when applicable.

Baseline data

Unless the proposed project area has already been well surveyed prior to initiation of the EA, a field survey should be undertaken at the earliest possible stages of EA preparation in order to establish the baseline conditions. *Field surveys* can make a major contribution to advancing the knowledge of an area, as in the case of a road project in Yemen (see box 3), and are necessary for assessing the significance of heritage and potential impacts of a project. *Significance assessment* of cultural heritage, which is a methodology in and of itself, is discussed in box 4.

Impact assessment

Once the significance of cultural heritage in a project area has been evaluated, the next step is to assess the potential impacts of the project, including the extent and economic costs of any damage. The EA should rank potential impacts on heritage according to (a) the significance of the heritage; (b) the level of irreversibility of the impact; and (c) the extent of potential damage. This should include assessment of both the direct impacts associated with destruction or physical disturbance *and* the indirect impacts caused by changes in topography, water table levels, land use practices, and induced development. The assessment should cover cultural heritage values of both major and minor significance as they may be subject to different types of impacts within the same project.

The seriousness of impacts will vary according to the type of project, climate conditions, settlement patterns, and the capacity of the cooperating government to effectively enforce its cultural heritage laws. Studies conducted in the United States have identified the following negative impacts on cultural heritage in order of frequency and significance: streambank erosion, vandalism, construction activities, plowing and land leveling, wind action, animal burrowing, groundwater leaching, compaction and fragmentation of soils, chemical contamination, vehicular traffic, subsidence, and livestock grazing. It is recommended that in situations where cultural heritage currently or potentially contributes to the local or national economy that an analysis be prepared to estimate the economic costs of the project impacts. Examples include heritage sites that provide a basis for tourism and historic districts or buildings that contribute to increased property values.

Analysis of alternatives

The most important single strategy for heritage protection is site avoidance: redirecting activities so that they do not endanger a site. This is particularly relevant in planning dams, large-scale irrigation and drainage projects, roads, and urban infrastructure and construction. If the site cannot be avoided, the EA should consider design and construction alternatives for the project as well as alternative methods and approaches for protection and mitigation. The alternatives should be ranked according to effectiveness, cost, difficulty, length of time required, and monitoring needs. Decisions should be made by weighing these rankings against the cultural significance

and economic value of the site. A forthcoming *Update* will address the issue of alternatives in more detail.

Environmental Management Plan

Mitigation. Appropriate approaches to protect cultural heritage may range from full-site protection to extensive redesign of a project in order to preserve the site to selective salvage, data recovery, and recording where a portion or all of the site will be lost. Standard mitigation measures include excavation, salvage, erosion control, restoration of structural elements, rerouting of traffic, and site mapping. Other protective strategies to be considered include site burial, structural stabilization, soil and rock stabilization, control of groundwater levels, vegetative stabilization, site surveillance, and control of flora and fauna.

Where a significant site or a group of sites may be affected by a proposed project, an archaeological and historical site management plan should be prepared to specify the types of conservation actions that should be taken for each surveyed site. When relevant, the plan should ensure that the project includes measures to salvage, test or conduct detailed surveys of a sample of sites representing a diversity of periods and types. The management plan should also establish a monitoring and evaluation system and include a schedule that is coordinated with the overall project schedule and a detailed budget. Consideration should be given, when appropriate, to leaving selected sites undisturbed to allow for their examination in the future.

Management and monitoring. The EA should recommend detailed measures for strengthening capacity in managing and monitoring cultural heritage, ideally in the form of plans that include costing, financing, and actions. Staff, working in close cooperation with local officials, may be able to intro-duce improved management procedures to safeguard heritage and increase its revenue-earning capacity, as in the case of a transport sector project in Cyprus, where a site master plan was prepared for the archaeological site of Paphos.

Experience has shown that a *cultural heritage management framework* is one of the most effective methods for ensuring that cultural heritage is considered in development work. As a first step, an organizational structure is needed, composed of the following elements: (a) drafting of a charter of authorities and responsibilities; (b) introduction of an institutional structure, including description of the units, individual positions, and general operating procedures; (c) preparation of basic policies, legislation, and guidelines; (d) development of a cultural resources review and approval system for development plans and projects that is linked to land use planning and the EA process; (e) design of a budget and accounting system; (f) preparation of an inventory of cultural sites, with emphasis on areas that are likely to be subject to impact from development in the short and medium term; (g) development of coordination mechanisms with planning authorities, municipal governments and other agencies involved with cultural resources; and (h) preparation of a workplan for a preliminary cultural resources management plan.

Box 3. Field survey and significance assessment of cultural heritage in a road project

In the Republic of Yemen, a new road has been planned, through arid lands considered inhospitable to most human settlement, to link Safir to the Hadramout Valley. During preparation of the proposed project, a field survey was carried out to determine whether archaeological and prehistoric remains were located along the road alignment. With the cooperation of the Yemeni officials and foreign research institutes in Yemen, an expert team was assembled to examine the proposed route, and a total of 35 archaeological sites and 50 prehistoric sites were found during the field survey.

Archaeologists were able to rank the sites using the methodology of significance assessment and propose a strategy for mitigating adverse impacts. A variety of actions were recommended: no action; avoid quarrying; protect by fencing; realign road if possible (for one site); excavate for further information; monitor during road construction; and prepare a site map. The field survey has enlarged considerably the archaeological and historical understanding of the region. Moreover, the observations about the potential prehistoric importance of the sites can serve as a guide to future explorations in the adjoining regions. The survey was carried out in less than three months.

In many developing countries qualified staff for cultural resource management in the public and private sectors are in short supply. Training in cultural heritage management is therefore needed and should cover issues such as cultural resource policy, legislation, and regulation; use of economic and fiscal instruments in cultural resource management; conservation of cultural resources in land use planning and through the permitting and EA process; development and implementation of site management plans; surveying, recording and inventorying; and public education.

Precise information on the form, materials, history, function, and condition of the cultural heritage is necessary for its safeguarding. Inventories form the basis for managing cultural resources and should provide information for planners and administrators at national and local levels. Lack of adequate information on cultural heritage is perhaps the single greatest obstacle to effective protection. EA requirements will serve to reinforce the importance of maintaining comprehensive and easy-to-use inventories.

Inventories of whatever form (for example, computerized entries or handwritten ledgers) should be consistent

Box 4. Significance assessment of cultural heritage

Cultural significance is a concept in estimating the value of a site. It includes aesthetic, historic, scientific (research), social or economic value and the concept of amenity value. Sites that are likely to be significant are those that help our understanding of the past, or enrich the present, and that will be of value to future generations.

Significance assessment is the basis for determining any action to protect cultural sites and is part of a site management plan. It requires in depth knowledge of art and architectural history, social history, and knowledge of materials. There usually are many management alternatives for any site and understanding its significance is a prerequisite for deciding on a course of action. Adequate detail is also needed to determine the best or most appropriate method of conserving the cultural significance, as different elements require different management strategies.

Cultural significance can be assessed in different ways and with varying scope. The process may be informal and rapid or it may be a formal process that requires a complement of specialized expertise (such as archaeologists, legal specialists, anthropologists, and botanists). It may deal with an individual site or be part of a regional or local overview. The appropriate level of detail will vary according to circumstances.

Aesthetic value. Aesthetic judgement is perhaps the most subjective of the criteria used in determining cultural significance. Although such judgement is shaped by cultural background and taste, the design, level of craftsmanship, and choice of materials also play an important role. It can explain why the general public is attracted to some sites more than others.

Historic value. A site can be a typical or well-preserved example of a culture, group, period of time, or type of human activity or can be associated with a particular individual. Often the place, rather than exemplifying one phase or aspect of history, is the embodiment of a long sequence of history.

Scientific or research value. This value will depend upon the importance of the data and its rarity, quality or representativeness. In addition to information on technological change, sites can provide evidence of changes in climate, the environment, and the animal population. The assessment of scientific or research significance is difficult because often potential rather than present scientific significance is being evaluated.

Social value. This concept embraces the qualities by which a place becomes a focus of spiritual, political, national, or other cultural significance to a majority or minority group. The local, regional, or national community may find in such sites a source of pride, education, or celebration, or a symbol of enduring culture. The qualities causing this preference are very important and in many cases are the strongest argument for conserving the place. For example, the site may be accessible and well known rather than particularly well preserved or scientifically important.

Economic value. This value can include use, non-use and existence values. Several methods may be used to estimate the economic value of cultural heritage. Work is currently underway to strengthen guidance on this topic.

with international standards. Different levels of detail are required for different purposes, ranging from detailed information on the history and significance of the site to basic location and construction data. Information in greater detail is required for the site or building owner to carry out conservation and maintenance works.

Records (and updating) of the heritage should be made when any changes (such as repairs or alterations) are anticipated or made; when new information is revealed; when accidental or unforeseen disturbance has damaged the cultural heritage; or when demolition is contemplated.

Public consultation

Consultation with affected groups and local NGOs during preparation will help clarify values and the trade-offs associated with different alternatives for managing cultural heritage (see *EA Sourcebook Update no. 5: Public Involvement in Environmental Assessment*). Where cultural heritage has religious or sacred meaning, community participation is particularly important in decisions affecting the site. In Lahore, Pakistan, where historic buildings were conserved, community input to planning the new use of the buildings (for example, health center, women's training center, or primary school) was an effective way of ensuring continued maintenance.

For further reading

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Serageldin, I. and J. Taboroff (ed). 1994. *Culture and Development in Africa.* Proceedings Series No. 1. The World Bank. Washington, D.C.

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