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The Oyu Tolgoi Cultural Heritage Program

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Edited by B. Gunchinsuren, Jeffrey H. Altschul, and John W. Olsen

Submitted by:



Mongolian International
Heritage Team (MIHT)

MIHT Member Organizations:



Mongolian Academy of Sciences
Institute of Archaeology



Sustainability East Asia LLC



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OF ARIZONA
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Introduction

Mongolia is experiencing significant economic development, spurred in large part by the mining industry, which is likely to continue for the foreseeable future. The opportunities provided by development to improve the lives and welfare of the Mongolian people are welcome. But economic development also presents challenges. Many aspects of Mongolian culture and society will change, often in directions that are unanticipated and unwelcome. How Mongolia manages these changes will greatly influence whether the Mongolian people and their culture thrive or are transformed into a society that few today would recognize or want.

Central to the debate about economic development and culture change is cultural heritage. What it means to be a Mongolian is often defined in relation to a shared historic past. Elements of this past are seen in everyday life: traditions, rituals, language, dress, historical sites, and so much more. Being Mongolian is less about being born in a particular country than it is about a way of life and a state of mind. Losing these cultural safeguards leaves so many uprooted and disenfranchised.

Mongolia had the foresight to place in its constitution protections for cultural heritage that are important to the Mongolian people. The country also enacted the Mongolian Law on Cultural Heritage Protection (MLCH), which requires government agencies and private entities sponsoring development to notify a professional council of their intent. The council decides whether the sponsor needs to pay for an archaeological or historical reconnaissance and evaluation. Like many developing countries, the desire to protect cultural heritage is often overshadowed by the lure of economic development. Compliance with the MLCH is spotty at best; socially responsible companies comply with the MLCH, and others ignore it.

In 2010, Oyu Tolgoi, LLC (OT), contracted with the Mongolian International Heritage Team (MIHT) to design a Cultural Heritage Plan (CHP) that balances economic development in Ömnögovî aimag with the protection and conservation of cultural heritage. The CHP, outlined in this document, has two primary objectives. First, the CHP presents a comprehensive approach to protecting and conserving cultural heritage. This approach is a long-term effort that will take years to establish and implement. A second, and more immediate, goal of the CHP is to provide a compliance framework that allows private entities and government agencies to meet their legal obligations to preserve and conserve significant tangible and intangible resources. The CHP is a dynamic tool with multiple elements that must be implemented on different schedules, and the various parts must work together.

Ultimately, the success of the CHP rests with the people of Mongolia and, most particularly, Ömnögovî aimag. Managing cultural heritage involves engaging and empowering stakeholders to identify those aspects of culture that they wish to protect and/or conserve and then devising scientific/compliance research and public programs to accomplish these objectives. We have done our best to forward a design that meets our stated objectives. It is up to the people of the Gobi to implement it.

The Relationship between the CHP and the Phase 1 Report

The CHP presented in this document is based on the information provided in its companion volume, *Protecting the Past, Preserving the Present: Report on Phase 1 Activities of the Oyu Tolgoi Cultural Heritage Program for Ömnögovî Aimag*. The Phase 1 report represents a year-long assessment of the cultural heritage of Ömnögovî aimag, as well as the perceptions of all interested parties, termed stakeholders, on the importance of this heritage and the state of its management. The Phase 1 report is the most comprehensive compilation of cultural heritage information to date for Ömnögovî aimag and will remain an important reference document for years to come. Topics covered in the Phase 1 report include:

- Literature search and gap analysis on cultural heritage in Ömnögovi aimag
- Baseline information on tangible and intangible resources
- Baseline information on public programs, including museums, education, and heritage tourism
- Cultural heritage inventory and mapping
- Assessment of the legal framework affecting cultural heritage
- Community and stakeholder consultation
- Risk analysis
- Establishment of a Standards of Acceptable Cultural Change framework

We assume that a reader of the CHP is familiar with the Phase 1 report. We suggest that, when reading or using the CHP, a copy of the Phase 1 report be kept at hand. Throughout the CHP, we provide references to chapters in the Phase 1 report that provide pertinent information on the topics discussed.

Key Assumptions of the CHP

The CHP is a detailed, integrated program based on four fundamental assumptions.

1. **Cultural Heritage as a Participatory Process.** The CHP takes a “bottom-up” approach to cultural heritage. We begin with the residents of Ömnögovi aimag, most particularly those most affected by mining development. Herders, soum center residents, officials, elders, craftspeople, religious leaders, teachers, students, mine employees—either in person or through representatives—define what is cultural heritage, why it is important, what elements need to be protected, and what programs need to be developed to achieve their heritage goals. The CHP’s success depends on local residents’ establishing, teaching, and participating in programs designed to conserve cultural heritage.
2. **Public Policy as a Reflection of Public Concern.** Although public concern must be defined by the people of Ömnögovi aimag, realizing these desires requires changes at the national, state, and local levels. In particular, the MLCH needs to be amended; the structural framework for cultural heritage compliance needs to separate the agency responsible for regulating the law from the agency that performs studies to comply with the law. Additionally, the Mongolian Academy of Sciences (MAS) must be allowed to establish the South Gobi Cultural Heritage Center (SGCHC). Aimag and soum governments need to take cultural heritage seriously by improving the physical and human resources devoted to museums and culture centers and pressuring schools to incorporate local heritage into lessons plans and the overall curriculum.
3. **Mongolians Safeguarding Mongolian Heritage.** Cultural heritage is a specialized field that involves archaeology, history, culture, paleontology, and architecture. Unlike academic studies in which the researcher defines the subject of interest and reports primarily to his or her peers, cultural heritage is performed at the behest of the public, to ensure that heritage important to the public is protected and conserved in the face of disturbances posed by development and is reported to the public in forms that can be appreciated. Although the academic subjects that compose cultural heritage have long histories in Mongolia, cultural heritage as a field is relatively new. An important component of the CHP, therefore, is training Mongolians in this field so that they can take charge of their heritage.
4. **Knowledge is Power.** Making the best possible decision to balance the opportunities and threats posed by economic development on cultural heritage presupposes that those who make the decision have the best possible information. Compliance studies must conform to the highest academic standards set in their respective fields. These studies must be objective, independent, and available to the public and the profession. Those performing compliance studies need to be accountable for their professional conduct and standards of research performance.

A Note on Geography and Scope

Although the CHP covers all of Ömnögovi aimag, it focuses on those areas subject to the most intense development pressures, particularly those involving the OT mining project. Four areas of the province are differentiated in the CHP (Figure 1.1). The Direct Impact Zone includes the OT mine and the surrounding area of Khanbogd soum. The Indirect Impact Zone lies mostly in Bayan-Ovoo and Manlai soums. The Cumulative Impact Area consists of Tsogttsetaii soum and provincial capital of Dalanzadgad. The fourth zone is the balance of Ömnögovi aimag.

The Organization of the CHP

The CHP has five program elements: public policy, stakeholder and community involvement, public programs, compliance program, and capacity building. The first two, public policy and stakeholder and community involvement, are closely related. For cultural heritage protection to be successful, it must result from a widespread public desire for such protection. Mobilizing interest through stakeholder groups and public awareness is the best way to galvanize support for changes in laws, regulations, and governmental structure. Chapter 2 of the CHP outlines our approach to achieving these goals. In Chapters 3 and 4, we move away from the politics of cultural heritage to the “stuff” of cultural heritage. In Chapter 3, we discuss programs for tangible resources: ruins, fossils, and buildings. We outline how archaeological and paleontological resources will be found, evaluated, and treated, as well as the process for deciding which architectural remains are worthy of restoration and conservation. In Chapter 4, we leave the tangible for the intangible, moving from things we can touch to social behaviors that, albeit patterned, are created anew each time. Protecting and conserving intangible heritage requires both public programs that are not directly related to a particular development and studies that are parts of compliance projects that meet legal mandates. Public programs are discussed in Chapter 4, and programs involving sacred and traditional sites related to development work are grouped together with tangible resources in the presentation of the compliance program in Chapter 5. The last program element involves training. Simply put, there are not enough cultural heritage providers, either professional or nonprofessional, to meet the needs of the CHP. Developing sufficient human resource capacity is the subject of Chapter 6. The CHP concludes in Chapter 7 with a 5-year implementation plan, during which time Mongolian cultural heritage will be properly balanced with economic development, and the governmental structure protecting cultural heritage will be transformed from the current system that is not successfully meeting the country’s needs to one that is sustainable and meets international standards.

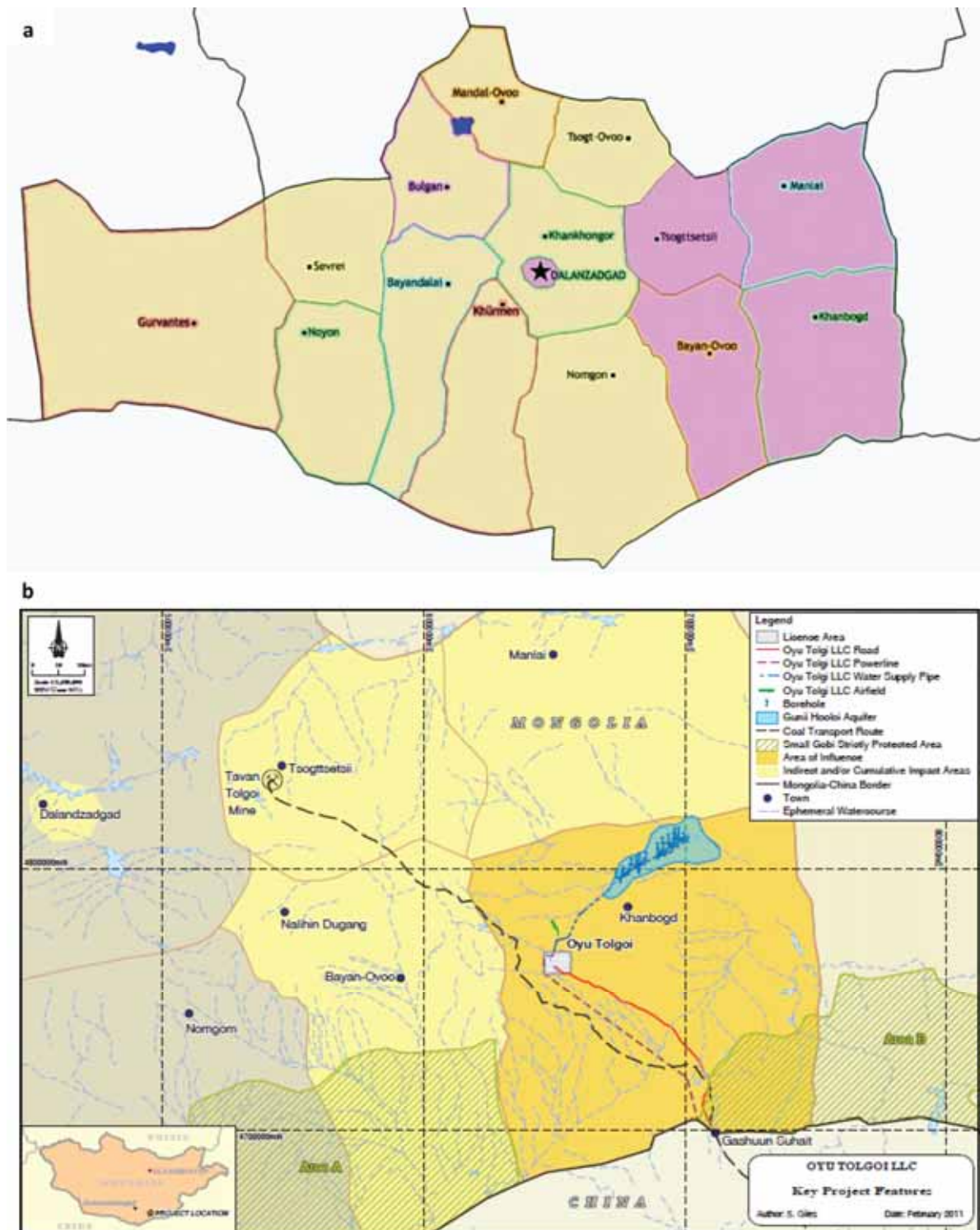


Figure 1.1. Maps of (a) Ömnögovii and (b) Oyu Tolgoi and the areas of influence and indirect and/or cumulative impact.

Public Policy and Stakeholder and Community Involvement

Cultural heritage is fundamentally an expression about who a people are, where they came from, and their desires for the future. Although cultures are constantly changing, in many traditional societies the speed and direction of culture change is relatively slow and manageable. Decisions about the future are based on traditions and beliefs that provide confidence in the outcome. In the face of rapid and major economic development, decisions are made by central governments and foreign corporations that directly impact people's lives and futures. Many traditional communities feel as though they have lost control of their destiny. Such is the situation today in Ömnögoví aimag.

One of the major goals of the CHP is to provide the people of the South Gobi confidence that they will not lose those elements of their cultural heritage that they hold dear as the region marches into the industrial age. To provide this confidence, we must accomplish two goals simultaneously. First, we must listen to the people of the South Gobi and find out what they want to protect, not simply those things that we think they should protect. Second, we need to establish within the governmental system a structure that can successfully deliver the necessary services.

This chapter presents our approach to accomplishing these goals. We begin with public policy, detailing a new framework for cultural heritage compliance. Next, we present a related framework to ensure that the public voice on cultural heritage is heard.

Public Policy

The CHP presupposes that the protection of cultural heritage is a fundamental objective of the Mongolian people. This assumption is well justified. Cultural heritage protection has been enshrined in Mongolian law since 1924. Immediately upon independence in the early 1990s, Mongolia made its commitment to cultural heritage clear by placing it in the country's constitution (Article 1.7), passing the MLCH, and becoming party to numerous UNESCO conventions to protect cultural heritage. Indeed, the CHP is an outgrowth of comments received from local residents of Ömnögoví aimag during the scoping and planning of OT.

Good intentions only get a country so far. Although the MLCH is an important statement about Mongolia's commitment to cultural heritage, it has been largely ineffective in protecting that cultural heritage. To ensure that the spirit of the MLCH is met, Mongolia must also have a structure that provides for the effective enforcement of the law's provisions. A major priority of the CHP, therefore, is to develop a new regulatory structure for the enforcement of the MLCH and then to amend the law itself, incorporating this structure.

In the Phase 1 report, we presented a new regulatory framework for compliance with the MLCH. This framework is presented in Figure 2.1. The key to the new framework is the separation of the regulation of cultural heritage compliance from the actual conduct of cultural heritage studies. Although all cultural heritage is under the Ministry of Education, Culture, and Science (MECS), we suggested that within the ministry, the regulation of the law should be the responsibility of the Department of Culture and Art (DCA), and the implementation of the law should be the responsibility of the Department of Science and Technology (DST). We suggested establishing a cultural heritage office or division within the DCA that would be charged with formulating cultural heritage policy for the ministry and regulating licenses and permits. As part of approving a mining license, the DCA will assess an annual cultural heritage fee.

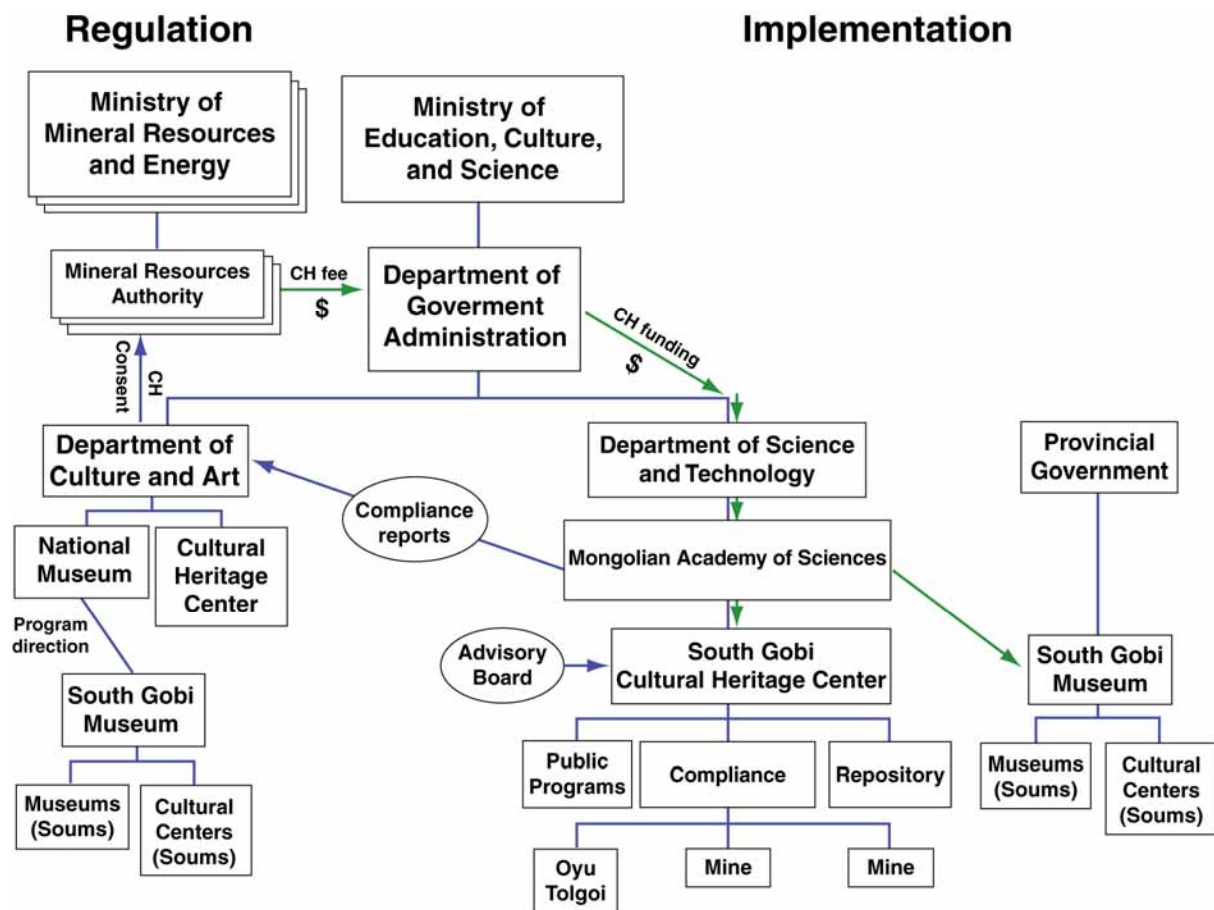


Figure 2.1. Proposed compliance structure for cultural heritage protection.

The DST would delegate the responsibility for conducting compliance studies to the MAS and the National Museum, with the MAS having the lead role (Figure 2.2). The MAS will establish the SGCHC, which will be charged with successfully completing the CHP implementation plan. The MAS also will establish a Board of Directors for the SGCHC that consists of MAS representatives from the Institute of Archaeology, the Institute of History and Languages, and the Center for Paleontology as well as representatives of the National Museum. The Board of Directors will provide financial and management oversight to the SGCHC. Providing direction regarding the content and direction of cultural heritage programs to the SGCHC will be an advisory board (AB) representing various stakeholders with interests in the cultural heritage and/or economic development of Ömnögovı aimag.

The SGCHC will have three main departments. The Compliance Department will be responsible for archaeological, paleontological, and ethnographic studies in support of compliance with the MLCH. For large mining operations that require constant compliance work, the Compliance Department will establish satellite or project offices on-site. These project offices will be staffed by one or more professionally trained archaeologists/paleontologists that have the authority to make on-site decisions regarding the significance of heritage resources and appropriate treatments (e.g., excavation) as well as nonprofessionals that have passed certification courses. Finally, a support division within the Compliance Department will be charged with maintaining the Geographic Information System (GIS) database that contains the locations of and pertinent information for all cultural heritage resources in the Ömnögovı aimag.

The Public Programs Department will work with soum culture centers and museums to ensure that the public program elements of the CHP are satisfactorily implemented. In addition, the Public Programs Department will work with the South Gobi Museum in Dalanzadgad to provide specific public programs (e.g., museum displays, educational materials, festivals, etc.) at the capital and in the soums.

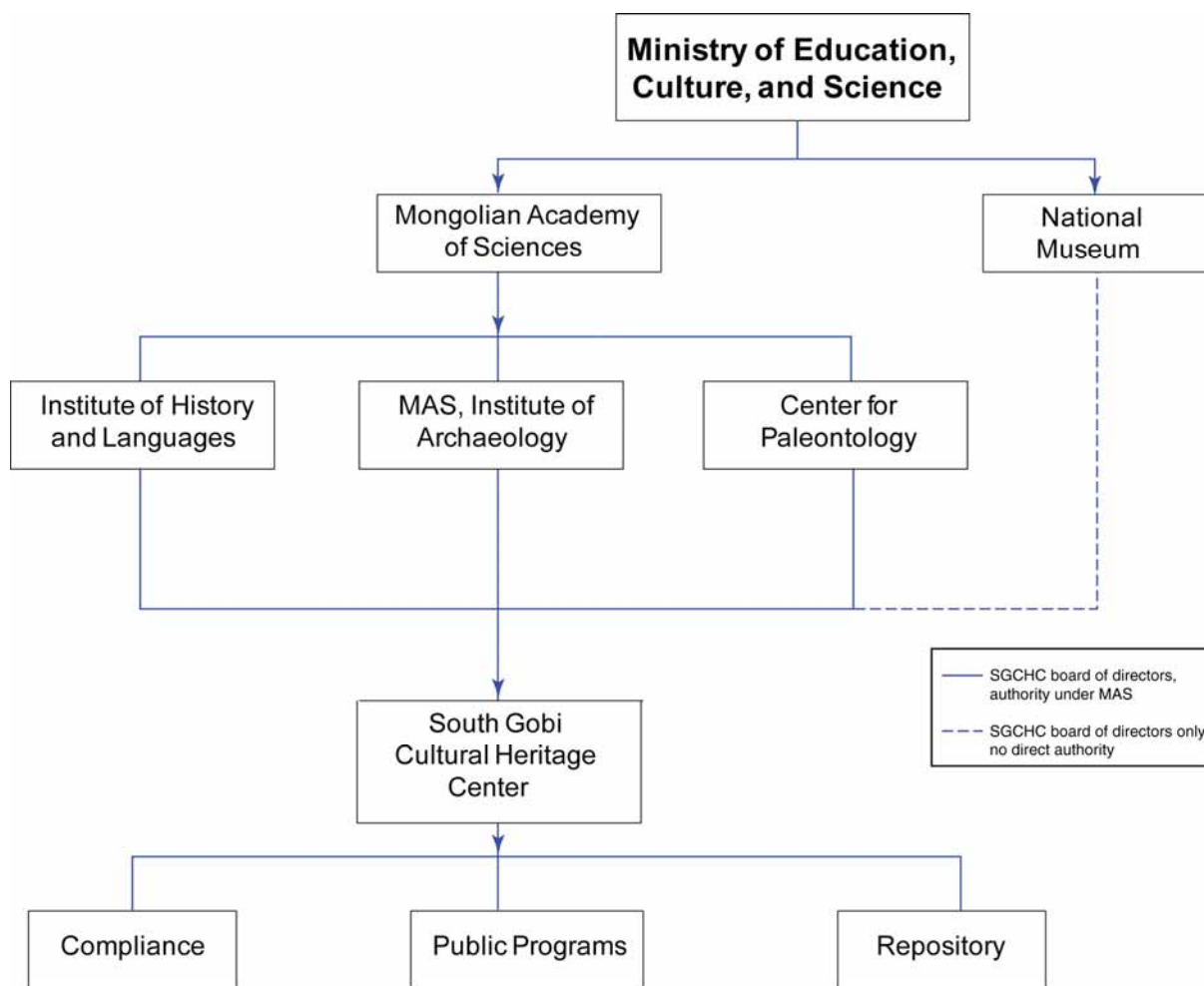


Figure 2.2. Proposed structural framework for the South Gobi Cultural Heritage Center.

The third department will be the South Gobi Repository, which will be charged with maintaining and managing scientific collections from the South Gobi, particularly those obtained in compliance studies. The South Gobi Repository will work with the MAS and the National Museum to ensure that all collections are maintained to international standards. Specimens that cannot be adequately maintained in the repository will be curated at the appropriate institution in Ulaanbaatar.

Transfer of Capacity

A major goal of the CHP is the creation of a successful and sustainable framework by which cultural heritage is managed by Mongolian institutions and organizations that are independently funded. Today, these institutions and organizations either do not exist or do not perform the proposed regulatory functions. The shift from the current situation to the proposed structure will take time. Yet during this period, cultural heritage compliance will need to be performed. In this transitional period, Mongolia will need to establish or reorganize government institutions, build a cultural heritage infrastructure with the human capacity to operate these institutions, and meet the ongoing need to balance cultural heritage protection with social and economic development.

To achieve these goals, the MIHT will provide international expertise in various fields of cultural heritage management to support the establishment and operation of the SGCHC in a manner that transfers capacity to Mongolian employees, contractors, and associated entities. This transfer of capacity includes transfer of professional expertise, technical knowledge, and administrative capability in a planned and targeted

program throughout the 5-year implementation period. The transfer of institutional capacity to the SGCHC will be phased in line with key development milestones that are dependent upon government engagement/support and securing of funding mechanisms integral to the SGCHC development schedule. Our goal is to have the SGCHC fully functional within 2 years, with international support declining until the end of the 5-year implementation phase, at which time the SGCHC and other Mongolian institutions and government organizations will be fully functional and operating, independent of all international expertise and support.

Stakeholder and Community Involvement

The success of the CHP is best measured through the public benefits that it provides. To measure these benefits and monitor the SGCHC's programs to ensure that they continue to provide the best possible benefits to the public, we will use a Standards of Acceptable Culture Change (SACC) framework. We began the SACC process during the design phase of the CHP. Our approach to employing the SACC was presented in detail in the Phase 1 report (Chapter 8); interested readers are referred to that document. Below, we summarize the SACC process.

The SACC derives from the better-known management framework, Limits of Acceptable Change (LAC). Developed in the United States, the LAC was a response to management practices of the 1970s that were designed to maintain natural environmental conditions in wilderness (i.e., protected) areas by limiting human access. By the 1980s, it was clear that limiting access was not working and a new approach was needed. The LAC turned the underlying management philosophy on its head. Instead of achieving wilderness conditions by sanctions to keep people out, the LAC focused on defining and supporting human behaviors that were compatible with wilderness conditions. The SACC also focuses on the impacts of human behavior. It differs from the LAC in that it was designed specifically to protect tangible and intangible cultural heritage.

The SACC has four objectives, which are achieved through a nine-step process. The four objectives are:

1. *The definition of acceptable and achievable resource and social conditions.* For Ömnögovi aimag, representatives of all parties interested in the region's cultural heritage must first be assembled. This group then must delineate the elements of cultural heritage that are essential to the character and values of the people of Ömnögovi aimag. These cultural elements must be measurable.
2. *The establishment of the current, or baseline, state of those cultural elements identified as critical by the stakeholders.* Once baseline studies are complete and the critical cultural elements have been defined, these baseline conditions need to be compared to conditions deemed "acceptable" by the stakeholders.
3. *The specification of management actions needed to achieve "acceptable" conditions of critical cultural elements.* Each management action needs to be assigned to a specific entity, such as a soum culture center, a nongovernmental organization (NGO), or the Mongolian Academy of Sciences, Institute of Archaeology (MASIA), which is then held accountable for implementing it.
4. *The establishment of a monitoring and evaluation (M&E) plan to evaluate the efficacy of ongoing management actions.* The M&E plan will need to be overseen by a body that represents all stakeholders. For management actions that are not producing the desired result, this body will need to re-define objectives, management actions, and, if necessary, the body tasked with implementing those actions. The implementation of the M&E plan should last indefinitely, at least for the life of OT.

The nine steps of the SACC process are presented in Table 2.1 (reprinted from Table 22 in the Phase 1 report). Although the SACC is presented as a sequential and iterative process, it is important to remember that there is no "right" way to implement it. The SACC is a publicly driven process designed to have stakeholders take "ownership" of the protection of cultural heritage. As such, implementation of an SACC program needs to be tailored to its situation. Such is certainly the case for the CHP.

Table 2.1. Standards of Acceptable Culture Change Framework for the Oyu Tolgoi, LLC, Cultural Heritage Program

Step	Description	Activity
1. Identify values, issues, and concerns for Umnogobi province.	Identify the values, issues, and concerns associated with tangible and intangible heritage resources in Ömnögovi aimag.	Meet with stakeholders to identify the values, issues, and concerns of tangible and intangible heritage resources in Ömnögovi aimag.
2. Define and describe land classes.	Define the environmental characteristics and types of activities appropriate for different areas within Ömnögovi aimag (development of heritage tourism, casual recreation, construction of housing tracts, support infrastructure, conservation areas, etc.). Describe the types of management actions needed.	Analyze environments, existing use, projected development, and locations of cultural heritage resources for Ömnögovi aimag. Classify province into a manageable number of land classes.
3. Select indicators of resource and social conditions.	Identify specific attributes or indicators that signify the condition of heritage resources for the Oyu Tolgoi, LLC, land and surrounding area (e.g., erosion, pot hunting, loss of traditional practices, and values—and replacement of these with nontraditional practices).	Define clear and measureable proxy variables that reflect overall environmental conditions and social activities. Associate values with management actions.
4. Inventory resources and social conditions.	Inventory the existing condition of tangible and intangible heritage resources in Ömnögovi aimag. As possible, switch from comprehensive baseline surveys to surveys of key indicators.	Conduct field evaluations of tangible heritage resources, assess their condition/integrity, and document the results in a Geographic Information System database; assess and summarize the condition of traditional cultural practices in each land class.
5. Specify standards for resources and social indicators.	Specify standards for each indicator (identified in Step 3); these standards provide measures against which current conditions can be judged acceptable or not.	Meet with stakeholders and experts to set standards for evaluating the condition of tangible and intangible heritage resources. Develop a document that describes these standards.
6. Identify alternative land classes and/or land-class distributions.	Identify different alternatives for managing the resources in Ömnögovi aimag (e.g., manage for heritage tourism, for resource protection, for economic development, etc.).	Meet with stakeholders to identify different alternatives for managing the different types of resources in different areas; define additional land classes and/or re-evaluate the distribution of land classes in Ömnögovi aimag.
7. Identify management actions for alternative land-class distributions.	Identify the management actions that would need to be taken to achieve the conditions required in each alternative (identified in Step 6). Identify the differences between the current conditions of an area and those deemed acceptable (Step 5). Management actions to remedy those differences must be considered where existing conditions are close to or below acceptable standards.	Meet with stakeholders and experts to identify management actions needed to achieve Step 6. Evaluate resources identified in Step 4 relative to the standards set in Step 5, and for resources below the standard, determine management actions required to change the conditions to an acceptable standard.
8. Evaluate and select a preferred alternative.	Conduct a cost-benefit analysis of each alternative, and select the preferred option.	Work with stakeholders and experts to conduct a cost-benefit analysis of different alternatives.
9. Implement management actions and monitor conditions.	Implement the preferred option, with a monitoring program established to assess the effectiveness of management actions in meeting desired goals.	Implement the Cultural Heritage Program and the monitoring and evaluation plan.

The first major alteration of the SACC process occurred during the design of the CHP. Instead of beginning with Step 1, we began with Step 4 by compiling existing information, identifying clear gaps in the existing data, and then proceeding directly to the completion of baseline surveys. The rationale for this approach was one of necessity; we simply did not know enough about the cultural heritage of Ömnögovi aimag to proceed in any other fashion. Once the baseline surveys were completed, we could then assemble an AB composed of 15 representatives of various groups interested in South Gobi cultural heritage to oversee the CHP design and, in the process, begin the implementation of an SACC program.

As part of the CHP design, the AB, augmented by various representatives of the mining and tourism industry, performed a risk-analysis workshop at the completion of the draft Phase 1 report. Following a format developed by Rio Tinto, the risk-analysis workshop was designed to identify potential threats to and opportunities for cultural heritage that are posed by mining and economic development in Ömnögovi aimag, as well as to define management actions that might minimize harmful impacts and maximize potential benefits. The results of the workshop were presented in the final Phase 1 report (Chapter 8, Section 8.4), and the results are summarized in the threats and opportunities matrices presented in Tables 2.2 and 2.3 (reprinted from Tables 23 and 24, respectively, from the Phase 1 report).

The risk-analysis workshop covered many of the remaining steps of the SACC framework. The participants identified values, issues, and concerns of local, state, and central-government agencies, local residents and NGOs, and industry revolving around cultural heritage protection and economic development. Threats and opportunities were prioritized, management actions were specified, and a responsible party was identified for each.

Although many of the SACC steps were covered during the risk-analysis workshop, they need to be formalized in an M&E plan before they can be implemented. Specifically, the following two tasks need to be achieved during the initial phase of CHP implementation.

1. *Advisory Board.* The CHP design AB needs to be transformed from a project-specific board to a permanent institution. The AB needs bylaws, articles of incorporation, policies, committees, and board member handbooks outlining rules and responsibilities. The composition of the board also needs to be evaluated to ensure that all cultural heritage stakeholders in Ömnögovi aimag are represented.
2. *M&E Plan.* The AB needs to develop a formal M&E plan for the implementation of the CHP. This plan needs to revisit the nine steps in the SACC process in order to define measurable conditions of cultural heritage, specify acceptable conditions, define accountabilities, and set milestones for CHP element review. An example of how the M&E plan might be presented is shown in Table 2.4.

The AB should meet three or four times per year. Part of the agenda for each meeting should be the review of CHP program elements (i.e., public policy, stakeholder and community involvement, public programs, compliance program, and capacity building). The AB may find that it is useful to divide into sub-committees, each tasked with one of the CHP components and fulfilling the M&E function for that component. A portion of the AB meeting should be open to the public so that interested individuals or groups can interact directly with the AB regarding matters of concern. The AB and the SACC program need to be transparent in all their affairs and encourage, as opposed to restrict, public involvement.

Table 2.2. Threats Matrix

Priorities for Threats	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Likelihood	Consequence	Consequence Rating	Risk Class	Risk Owner	Activities to Be Implemented
1	Loss of nomadic culture and traditional customs.	Frequency of pasture movement will decrease. Khanbogd will become urbanized and transform from nomadic culture to sedentary lifestyle. Industrialization will intensify.	direct and indirect	direct-impact soums	Intense during the Oyu Tolgoi, LLC (OT), mining operation; some loss permanent.	highly likely	Nomadic life-style, traditional housing (ger) and traditional means of transportation will disappear or diminish	high	IV	-Government -Parliament -Local administration -Mining industry -Community	-Pursue an animal-husbandry promotion policy, and supply meat and milk to mining operations. -Organize annual traditional animal contest. -To raise awareness and training on nomadic culture. -Transmit cattle-breeding technique and tradition. -Encourage establishment of hide- and wool-processing production. -Development of “nomadic” tourism. -Formulate state government policy to stimulate nomadic traditions.
2	Increase in damage and/or destruction of historical, paleontological, archaeological, and cultural properties.	Construction of infrastructure and mining facilities; increase in illegal archaeological excavation and robbery.	direct and indirect	1. mining areas; 2.direct-impact soums	Permanent and irrespective of mining development.	highly likely	Loss of elders' and ancestors' information; loss of natural and historical records and sites; loss of national pride.	high	IV	-Government -Parliament -Local administration -Mining industry -Citizens	-Establish database of cultural heritage inventory and documentation. -Find financial resources for the protection of cultural heritage. -Strengthen human resources protecting cultural heritage. -Increase the fines and sentences for cultural heritage violations. -Organize formal and informal trainings and awareness programs on cultural heritage protection. -Strengthen the law for the protecting cultural heritage and commitments to uphold it. -Increase the participation of community and nongovernmental organizations for the protection of cultural heritage. -Discuss with professional organizations the establishment of a paleontological museum.

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Priorities for Threats	Consequence Rating										
	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Likelihood	Consequence	Risk Class	Risk Owner	Activities to Be Implemented	
6	Loss of continuity for intangible cultural heritage.	As bearers of intangible cultural heritage die, they will not be replaced, because of urbanization.	direct and indirect	direct-impact soums	Intense during the OT mining operation; some loss permanent.	probable	Traditional crafts, musical instruments, songs, national food, clothes, and family behavior will disappear, and transmission of traditional knowledge and culture will be reduced.	moderate	II	-Community -NGOs -Citizens	-Conduct study of intangible cultural heritage. -Create an inventory of intangible cultural heritage. -Conduct training of intangible cultural heritage. -Constantly organize various kinds of competitions among intangible heritage bearers. -Develop discipline-oriented program of intangible cultural heritage bearers and secure funding. -Record and document in books, CDs, and DVDs.
7	Traditional methods and customs for the natural conservation will disappear.	Natural conservation will deteriorate as a result of urbanization and population increase.	direct and indirect	direct-impact soums	Intense during the OT mining operation; some loss permanent.	probable	Traditional customs to preserve nature and pastures will be forgotten.	moderate	II	-Community -NGOs -Citizens	-Organize training to raise the ecological awareness of citizens. -Develop an additional curriculum on natural conservation. -Study and promote traditional knowledge on natural conservation. -Train natural protectors.
8	Increase in crime against cultural heritage.	Stealing, destroying, and purchasing of cultural heritage will rapidly increase. Illegal export of antiques will increase.	direct and indirect	direct-impact soums	Permanent-illegal activities will occur before, during, and after the OT mining operation.	probable	Articles will be lost; illegal excavation will increase, with increasing damage to cultural, archaeological, and paleontological sites; cultural items will disappear.	moderate	II	-Government -Parliament -Local administration -Mining industry -Citizens	-Establish a database of cultural heritage inventory and documentation. -Place important heritage sites on state, aimag, and soum lists of specially protected areas. -Improve the legal environment. -Set responsibilities and rights of state inspectors regarding cultural heritage. -Strengthen criminal penalties and violation of cultural heritage laws.

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Priorities for Threats	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Consequence Rating			Risk Class	Risk Owner	Activities to Be Implemented
						Likelihood	Consequence	Consequence Rating			
9	Changes in population distribution will alter the socio-political balance in South Gobi province.	Population migration will increase, and residents of nonmining administration units will decrease.	direct and indirect	1. direct-impact sounds; 2. province	During the OT mining operation.	probable	Smaller sounds will be at risk of losing political importance and influence.	moderate	II	-Government -Parliament -Local administration -Mining industry -NGOs	-Improve the infrastructure of direct-impact areas. -Create economic opportunities in Khanbogd and surrounding sounds (e.g., meat, vegetable, or dairy suppliers to Oyu Tolgoi). -Improve social services in direct-impact areas.
10	Conservation of natural protected areas will be more difficult.	Great Gobi desert land, which is a world biosphere reserve, will be in danger. Roads and other infrastructure will be constructed and will have unintended consequences that are detrimental to the natural environment.	direct and indirect	direct-impact sounds	During the OT mining operation.	probable	Rare animals of protected areas will disappear. Vulnerable soil and plants will be destroyed.	moderate	II	-Government -Parliament -Local administration -Mining industry -NGOs	-Develop a concept of natural tourism for natural protected areas. -Promote natural protected areas. -Train natural conservators.

Table 2.3. Opportunities Matrix

Priorities for Opportunities	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Likelihood	Consequence	Consequence Rating	Risk Class	Risk Owner	Activities to Be Implemented
1	Establishment of a cultural heritage registration and information database.	Intangible cultural heritage and its bearers will be registered and documented.	direct	1. direct-impact soums; 2. province	During the Oyu Tolgoi, LLC (OT), mining operation.	highly likely	Comprehensive database of tangible and intangible cultural heritage will be created.	high	IV	-Government -Local administration -Mining industry -Community	-Create registration and video recordings of intangible cultural heritage bearers. -Conduct various kinds of trainings on cultural heritage.
2	Improve detailed research on cultural heritage of the South Gobi.	Scientific exploration and investigation will be conducted within mining-license and exploration areas. Historical and ethnographical surveys will be conducted in affected soums.	direct	direct-impact soums	During the OT mining operation.	highly likely	Survey in Direct Impact Zones will increase.	high	IV	-Mongolian Academy of Sciences -Mining industry -Local administration -Community	-Conduct systematic survey of archaeology, paleontology, and ethnography in the Direct Impact Zone.
3	Placement of unique cultural and natural heritage of the Gobi on the World Heritage List and intangible heritage list(s).	Natural, paleontological, and cultural sites will be nominated and placed on the World Heritage List.	indirect	province	During the OT mining operation.	highly likely	Knowledge and interest in the Gobi will increase throughout the world.	high	IV	-Government -Local administration -Mining industry -Mongolian Academy of Sciences	-Prepare the nomination dossier of Bayanzag, Guvansaikhan Mountain, Gobi small protected area, and Camel festival for the inscription of World Heritage List and either one of the lists for intangible resources.
4	Construct new South Gobi Museum and strengthen museum programs	A new building will house the provincial museum in Dalanzadgad and the activity of the provincial and soums museums will be improved.	direct and indirect	1. Dalanzadgad 2. direct-impact soums	Some permanent; others likely during the OT mining operation.	highly likely	A museum that meets international standards will be built. Soums museums will be maintained.	high	III	-Government -Local administration -Mining industry	-Build a new museum in Dalanzadgad. -Construct museums in the three soums of the Direct Impact Zone. -Enrich exhibits.

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Priorities for Opportunities	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Likelihood	Consequence	Consequence Rating	Risk Class	Risk Owner	Activities to Be Implemented
5	Enhance the capacity of the cultural centers.	Equipment and technology of the cultural center will be improved.	direct	direct-impact soums	During the OT mining operation.	highly likely	Cultural center will become a main place to implement cultural policies.	moderate	III	-Government -Local administration -Mining industry	-Provide soum cultural centers with needed equipment. -Conduct cultural heritage training at soum cultural centers. -Organize competitions on cultural heritage at the soum cultural centers.
6	Increase knowledge and awareness of cultural heritage.	Cultural heritage education of students will be strengthened. Distance training will be conducted.	direct	direct-impact soums	During the OT mining operation.	probable	Knowledge of all people in the direct-impact soums of cultural heritage will be improved.	moderate	II	-Government -Local administration -Mining industry -Nongovernmental organizations (NGOs)	-Improve primary-school cultural heritage education. -Organize cultural heritage distance and nonformal training for adults.
7	Increase the number of tourists and the intensity of tourism.	Tourism will be diversified, and tourists will be increased.	direct and indirect	1. direct-impact soums 2. province	During the OT mining operation.	probable	The promotion and propagation of historical, cultural, and natural properties will be improved.	moderate	II	-Government -Local administration -Private entities -Community	-Enhance hotel and restaurant facilities. -Promote animal-husbandry-based tourism.
8	Develop cultural heritage tourism.	Cultural heritage tourism will increase, especially for intangible cultural heritage.	direct and indirect	1. direct-impact soums 2. province	Intense during the OT mining operation; some permanent.	probable	Intangible cultural heritage will become a tourist attraction.	moderate	II	-Government -Local administration -Private entities -Community	-Promote cultural heritage tourism. -Take steps to protect intangible cultural heritage. -Stop robbing, destroying, and illegally purchasing of cultural heritage. -Build protection zones, fences, signboards, and parking for tangible cultural heritage.
9	Improve infrastructure, and increase the standard of living.	Electricity, communication, and transportation will be enhanced, and the quality of living for mining workers will improve.	direct	direct-impact soums	Intense during the OT mining operation; some permanent.	probable	Constant electricity access will be built.	moderate	II	-Government -Local administration -Private entities -Community	-Build asphalt roads. -Install power lines. -Introduce new communication technology.

Priorities for Opportunities	Risk Title	Causes/Triggers/Indicators	Nature	Geographic Scope	Duration	Likelihood	Consequence	Consequence Rating	Risk Class	Risk Owner	Activities to Be Implemented
10	Create a model of coexistence of mining and the nomadic lifestyle.	A policy to promote nomadic pastoralism will be pursued, and animal and dairy products will be purchased.	direct	direct-impact soums	During the OT mining operation.	probable	Program for promoting nomadic pastoralism will be developed.	moderate	II	-Government -Local administration -Private entities -Community -NGOs	-Establish small and medium-sized enterprises for meat production in all direct-impact soums. -Establish small and medium-sized enterprises for dairy production in all direct-impact soums.

Table 2.4. Example Monitoring and Evaluation Plan

Goal and Objectives	Key Activities	Key Performance Indicators	Definition of Success	Responsible		Completion Date	Status	Completion
				Body	Individual			
Goal 1. Nomadic Way of Life								
Objective 1: Promote animal husbandry.	Supply meat and animal products to mining operations.	1. Development of the market to purchase animal products in Khanbodg soum. 2. Herder participation.	1. Purchase of 25% of animal products from local herders. 2. Participation of 75% of herders in program.	Khanbodg soum	governor	45 days (6.5 weeks)	NS	10/12
Objective 2: Increase traditional animal contests.	Include competitions related to animal husbandry at traditional festivals.	A number of competitions related to traditional animal husbandry at soum and aimag festivals.	Increase of 25% of competitions related to animal husbandry at soum and aimag the Naadam and camel festivals.	aimag and soum	governors	90 days (13 weeks)	NS	1/13

Tangible Resource Programs

In this chapter, we describe the methods to be used in the protection and management of three types of tangible resources: archaeological, paleontological, and historical. We begin with archaeological resources, presenting the logic and methodology for how these resources are discovered, evaluated, and treated in a cultural heritage setting. Specific methods and techniques are presented for each major task. Next, we move on to paleontological resources, presenting much the same information. Finally, we address a particular type of historical resource: ruined buildings and structures in need of restoration or reconstruction.

Archaeology

Ömnögovı aimag is rich in archaeological resources. In the Phase 1 report, we documented the history of archaeological investigations throughout the twentieth century. Most of the work was performed during the Soviet period by archaeologists trained in the Soviet Union. Not surprisingly, the major research focus was on culture history, with a concomitant interest in technology. Sites documented in Ömnögovı aimag include Paleolithic (Stone Age) lithic scatters found in caves and open sites; mine pits and smelting features, slab graves, *khirgisuur* tombs, deer stones, rock painting and petroglyphs of the Metal Age; and graves, urban settlements, statues, and petroglyphs of the Ancient States period.

Although nearly 100 years of archaeological research has been conducted in Ömnögovı aimag, surprisingly little is known beyond the basic outlines of culture history. The increase in mining and economic development in the South Gobi creates an opportunity to increase our knowledge about the past at the same time these same forces endanger the archaeological record. The compliance program devised for archaeological resources as part of the CHP is designed to document the archaeological record before it is lost.

Methods and Techniques of Archaeological Field Survey

The first step in the compliance process is to determine whether archaeological artifacts, features, or deposits exist in an area proposed for land-disturbing activities (hereafter known as the “project area”). The project area consists of those areas that will be “directly” impacted by the development (i.e., areas in which the ground surface will actually be removed or disturbed) and those areas that will be “indirectly” impacted (i.e., areas made more accessible to looting because of the project, such as sites immediately adjacent to a road). Discovering and recording archaeological resources in a project area is termed “inventory.” For archaeological remains, inventories involve field surveys. When possible, we want to survey the entire project area following a formal and systematic approach; this is termed an “intensive survey.” Sometimes, it is not possible to survey the entire project area, because the area is so large that the cost would be prohibitive and/or there are parts of the project area that are impossible to survey systematically, such as steep mountain slopes. In these cases, we conduct a “sample survey,” by which certain areas are subjected to intensive survey and others are subjected to either directed survey (that is, looking only at those areas that archaeologists believe may contain sites) or no survey. Often, when working in areas of little previous work, archaeologists will conduct a “reconnaissance” survey of the area to gain sufficient knowledge so that an informed decision about the best methods of inventory.

Most of the time, we find sites by walking the project area and observing archaeological artifacts or features. This is termed a “pedestrian survey.” In some cases, however, we find ourselves in situations in which archaeological materials may be buried and show no visible remains on the surface. In such a case, we

must use some type of subsurface probing, such as hand-excavated shovel or test pits or machine-excavated trenches. Regardless of whether we conduct an intensive or sample survey, a pedestrian or mechanical survey, or some mixture of the approaches, the methods we use and the justification for which areas we investigate are described in a survey plan.

Below we discuss each element in an archaeological survey.

Survey Plan

- Description of the area to be surveyed (including a general overview of the natural and environmental circumstances, administrative unit, and size of the area)
- Based on the size of the survey area, the following activities should be planned:
 - Survey type: reconnaissance, sample, or intensive survey
 - Survey team members: the composition of the field crew (e.g., crew chief [M.A. level archaeologist] and 3 crew members [B.A. level archaeologists])
 - Effort: the number of hectares expected to be covered by a surveyor each day, as well as the number of sites to be recorded by a field crew, as dictated by terrain, vegetation, survey methods, and anticipated site size and complexity
 - Pedestrian, vehicular (e.g., car, horse, etc.), and/or subsurface (e.g., backhoe, soil probe, shovel tests, etc.) disturbances
 - Intensity and routes to the survey area: the distance between surveyors and the type of survey technique (straight-line transects, dog-on-leash method, etc.)
 - Survey equipment (e.g., type and accuracy of Global Positioning System [GPS] unit, cameras, topographic maps, etc.)
 - Description of the area to be surveyed (including a general overview of the natural and environmental circumstances, administrative unit, and size of the area),
- Survey Report
 - The purpose and legal authority of the survey
 - The survey methods and methodology
 - Description of the finds
 - Sites
 - Objects
 - Features
- Recommendations for evaluation of the survey results

Prefield Tasks

Based on the methods to be employed, the following actions should be taken prior to fieldwork:

- Describe previous research conducted in the survey area;
- Prepare detailed and simple maps of the survey area;
- List toponyms indicated on a detailed map that should be examined in greater detail;
- Consult predictive modeling of Ömnögovi aimag;
- Based on geographical coordinates, the survey area should be divided into subareas, followed by the proper allocation of survey team members;

- Allocate survey areas to survey teams;
- Provide survey teams with proper equipment (e.g., GPS units, compasses, maps, notebooks, pencils, cameras, measuring tapes, satellite phones, etc.);
- Outline the duties and responsibilities of each team member (e.g., take photographs, write site descriptions, measure properties, etc.);
- Conduct simplified, adaptive training for stakeholders in the field survey in order to raise their awareness and understanding of archaeological remains and findings;
- Establish a clear, common understanding as to the places, times, and coordinates for meetings between survey teams and drivers.

Fieldwork

Types of Survey

Archaeological field survey is one aspect of the research process that has its own methodology for discovering, describing, and analyzing ancient historical and cultural properties. Archaeological field survey can be divided into three types: intensive field survey, sample survey, and reconnaissance survey.

Intensive survey. This is a methodological approach applied in valley and steppe areas. The survey area is first delineated on a map. Surveyors are spaced at 15–20-m intervals and then directed to walk a more-or-less straight line, examining the ground 1 m on each side of the line for evidence of archaeological materials, from one end of the survey unit to the other. Generally, surveyors walk either north-south or east-west transects, although the orientation can be altered to conform to the landscape. This method is designed to document large-scale properties as well as stone implements, pieces of broken pottery vessels, and small artifacts that are not readily observed on the ground.

When a surveyor makes a discovery, surveyors mark their locations with flagging tape and then converge on the find. Its geographical coordinates are established, and the survey team determines whether the location meets the definition of an archaeological site. If so, the site is recorded (see below). If not, notes are made on the find, photographs are taken, and GPS coordinates are noted and marked on the topographic map. Surveyors then resume their locations, and the survey continues.

Intensive survey is the most suitable inventory method for the OT mining-license area. The mining-license area is relatively flat, has good surface visibility, and does not contain many small parcels of limited or no access (which would drive logistical survey costs higher). Also, intensive survey is appropriate, because we do not have a good understanding of the archaeology of the region. We know the sites are fragile, but we are not in a position to state with any confidence which landforms have sites and which do not.

Sample survey. This method is suitable for mountain slopes and hillsides and on dry, pebbly ground. This approach also is applied in areas for which aerial photographs are available but no detailed topographic maps exist. Sometimes even aerial photographs are of limited utility because of poor visibility of the ground or because the areas preclude walking straight-line transects.

The purpose of a sample survey is to document a representative sample of sites so that we can determine the types of resources, their probable frequencies, and their typical locations. We are not, however, trying to find *every* site, for to do so in these areas would be prohibitively expensive. In Ömnögovi aimag, sample surveys are best conducted along the same lines as intensive surveys; the main difference would be that instead of being 15–20 m apart, surveyors will be 30–50 m apart. At the beginning of the survey, the four corners of the survey polygon are identified on aerial photographs with the aid of a GPS unit. Then, a fixed distance between each survey-party member is determined according to the survey plan. The survey teams progress by moving from one edge of the survey polygon to another, and distances are recorded along longitudinal and latitudinal vectors. Areas in which archaeological artifacts or features are found will be treated in the manner described above (see “Intensive survey”). Each survey team will have its own notebook for recording locational data that will be used to generate a general map of the property, a digital camera, and a GPS unit.

Reconnaissance survey. A reconnaissance survey is applied in two situations. First, in areas in which no previous archaeological investigations have occurred, archaeologists may find it useful to conduct a reconnaissance survey as a means of familiarizing themselves with the archaeology and environment of the region. A reconnaissance survey may be very useful in designing a survey, particularly if there is some question about whether to conduct an intensive survey of an entire project area or whether a sample survey will suffice. Reconnaissance surveys also may be employed in areas within project areas but relatively far from impact zones. In these areas, we are interested in obtaining a general view of the archaeology but may not need to know the exact locations of all archaeological resources.

In a reconnaissance survey, teams do not cover the survey area systematically. Instead, they select particular environmental settings to investigate as a means of determining, in the most efficient manner possible, human use of the landscape. Once a site is found, however, it is recorded in the exact manner as with the other survey techniques.

Buried sites survey. In areas in which the surface is obscured or the surface deposits have covered all traces of past human activity, surveys need to include a component that incorporates methods of detecting subsurface archaeological deposits. For regions that have wall foundations or substantial burial crypts, near-surface remote-sensing techniques, such as magnetic surveys or ground penetrating radar, may be usefully employed if other lines of evidence, such as historical documents, provide guidance as to where to search. In areas subjected to alluvial or colluvial deposition, we may need to use mechanical trenching or probing to find deeply buried sites. Most often, buried sites will be shallowly buried and amenable to hand probes; this type of survey is termed a “shovel-test” survey. In the South Gobi, shovel-test surveys will be performed primarily in areas covered by high grass and where surface finds are covered by vegetation and/or surface soils. The methods for shovel-test surveys are relatively simple and can be described as follows:

- Survey participants will use shovels and sieves to conduct transect surveys along established segments.
- If six people compose a survey team, three will use shovels, and the others will use sieves (no greater than $\frac{1}{4}$ -inch or 0.6 cm), in order to maximize the efficiency of data return.
- On transect surveys, a soil pit measuring 50 by 50 cm and 20–30 cm in depth (unless otherwise dictated by field conditions) will be dug at regular intervals not to exceed 100 m or as otherwise determined by the team leader. Sediments removed from the soil pit will be sieved and examined for archaeological traces; sediments also will be described (e.g., soil color, texture, etc.).
- If five or more finds are recovered, the location should be considered an archaeological site and thoroughly documented (see below). If fewer than five artifacts are recovered, the locus should be recorded as an archaeological object (see below) and treated as such.
- If artifacts are recovered in a subsurface shovel probe, additional shovel probes radiating outward from the original find spot should be excavated at regular 5–10-m intervals. If two or more shovel tests contain artifacts and/or one shovel test contains five or more artifacts, then the locality will be defined as an archaeological site and recorded as such (see below). If the original shovel test contains fewer than five artifacts and no additional artifacts are found in any other shovel test, then the area will be considered an archaeological object and documented accordingly (see below).

Survey Tools and Equipment

Pedestrian survey mixes traditional archaeological tools with state-of-the-art technology. Surveyors should all carry compasses, pens and paper, and sections of topographic maps. In addition, survey crew leaders need GPS units, digital cameras, proper forms (which can be loaded as digital files on personal digital assistants, along with GIS software for site mapping), and communication devices (e.g., cell or satellite phones). Archaeological surveys in the South Gobi require high clearance and four-wheel-drive vehicles equipped with spare parts and first-aid equipment.

Buried site surveys can require tools as simple as shovels and hand picks. Alternatively, heavy equipment, such as backhoes or grade-alls, may be employed. Remote-sensing equipment is highly specialized and will require the use of trained technicians. Also, remote-sensing anomalies will need to be verified through hand-excavation. Regardless of the technology, all subsurface tests should have some (in the case of heavy equipment) or all (in the case of hand-excavation) of the fill screened through hardware mesh sized either $\frac{1}{4}$ inch (0.6 cm) or $\frac{1}{8}$ inch (0.3 cm).

Recording

Documentation of the archaeological record is vital to the inventory and evaluation of cultural heritage. The effort used to record archaeological material is related to its scientific and cultural importance. We have divided the archaeological record into three categories for purposes of recording: objects, features, and sites. Recording procedures are detailed for each in the following sections.

Archaeological objects consist of one or a handful of artifacts found on the surface without context. They are of minimal scientific importance unless the artifacts are diagnostic or from a particular time period or are representative or rare or unusual types. In the last case, they should be recorded as sites (see below). If in the opinion of the survey leader the artifacts are “objects,” then they should be located with GPS coordinates and placed on a map, notes should be taken on the artifacts in terms of raw materials and technology, and the artifacts should be photographed. No further documentation or archaeological work is necessary prior to development.

If the archaeological phenomenon represents a cohesive behavioral event, such as a stone hearth for a cooking fire or an earthen storage pit, then it is termed an **archaeological feature**. An isolated feature should be recorded by plotting its location (via GPS), photographing the feature, and noting its constituent parts. If the feature is intact and has the potential for scientific information in the form of ancient pollen, macrofossils (i.e., burned seeds), faunal remains (i.e., animal bones), or chronometric dates (e.g., C^{14}), then the survey leader may decide to excavate it. If so, the features should be halved (i.e., half the feature should be excavated as a unit); the fill should be screened through suitable hardware mesh, either $\frac{1}{4}$ inch (0.6 cm) or $\frac{1}{8}$ inch (0.3 cm); the profile of the feature and its fill should be drawn and photographed; and analytical samples should be taken and logged on appropriate sheets (e.g., pollen sample log, C^{14} sample log, etc.). Once the feature is backfilled, no further fieldwork need be undertaken on the feature, although analyses will need to be conducted on the samples and the results described and interpreted in the survey report.

Although it stands to reason that an archaeological site is anything that does not fall in either the object or the feature category, a more formal definition can be offered as follows:

An **archaeological site** meets one of the following criteria:

1. Contains 15 or more artifacts, unless the artifacts consist of parts or pieces of 1 tool or object (e.g., a ceramic vessel);
2. Contains any number of artifacts of two or more material classes (e.g., ceramic sherds and lithic debitage);
3. Contains an archaeological feature and more than five artifacts or any number of artifacts from two or more material classes; or
4. Contains two or more features with or without associated artifacts.

All artifacts and features at the same site must be within 15 m of another artifact and/or feature.

Archaeological Site Recording

In many countries, recording an archaeological site is standardized by completing an official site form. No such form exists in Mongolia. In the future, the MASIA is likely to develop a standardized form, but until such time, the following steps will be taken to ensure proper documentation.

1. Site numbering

The site will be numbered by the full name or acronym of the survey area followed by a unique numerical designator (e.g., Oyu Tolgoi-01, OT-01, etc.). Because site numbers will be integral components of all subsequent information databases, each survey team will be given a block of mutually exclusive numbers so that each site will have a unique identifier.

2. Site descriptions

Site descriptions will be recorded in special, serially numbered notebooks. On the first page of each notebook, short questions will prompt those writing the site descriptions. It is important to standardize our observations and measurements so that we can compare sites from one area to another. Prompts will include:

- A geographical and environmental overview of the area;
- Toponyms, such as mountains, rivers, and lakes near the property;
- The physical appearance of the property;
- Visible extant damage to the property;
- Dimensions of the property, measured from north to south and east to west along established longitude and latitude; and
- Geographical coordinates, recorded according to the WGS84 map datum and expressed as Universal Transverse Mercator (UTM) coordinates or in traditional Lat/Lon hddd.ddddd° format.

3. Photographs

Detailed photographs of the property will be a significant source of information to be included in the database and will include the following specific activities:

- A placard or sign that includes the site number, the number or name of the survey area, and the date. The placard will be placed in an appropriate place so that the site is not obscured in the photograph. Because this information is needed to incorporate sites in the database, it must be clear and legible.
- Inclusion of a north arrow will facilitate situating the property within a larger geographical context, both inside and outside the immediate survey polygon.
- A scale of appropriate dimension should also be clearly visible in all photographs, 100–200 cm for larger properties and 20–50 cm for smaller ones. Such information will facilitate reconstruction of information regarding the size of a particular find as the analytical phase of the project progresses.
- Surrounding topographic features, such as mountains, rivers, and canyons, should be included in photographs of the property as additional aids to orienting its location with respect to visible features of the larger landscape.

4. Artifact collection involves sampling the assemblage for characteristic small finds, including stone implements, pieces of broken pottery, and iron waste.

- Description of the spatial distribution of surface artifacts, which is best accomplished by placing small survey flags in the ground near the finds.
- Measurements of artifact distributions by longitude and latitude to be reflected in its description.
- After describing the distribution(s), the number of finds per square meter will be recorded at areas of greatest density.
- Although it is possible to collect some find for further analysis, most should be left in place for future test excavations and study. Criteria for the collection of artifacts should include: (1) datable or diagnostic material (i.e., artifacts that have been relatively dated to particular periods), (2) popularity (items that may be targets for vandalism, such as whole vessels or spear and arrow points), (3) rarity (items that are unusual or rare for the area), and (4) technology (items representing all types of technology and raw materials on the site).

- If it is necessary to sample finds, they should be bagged together and clearly labeled as to the site number, the number of the survey area, and the coordinates.

5. Site maps

Site maps provide critical information about the distribution of archaeological materials and their relationships to topographic and environmental features. They also provide datums and markers that allow successive archaeologists and managers to find the site.

- Site maps will be created using a combination of techniques. The site datum will always be referenced with GPS coordinates. For most sites, other measurements will be made with a Brunton (or other similar-quality) compass and metric tape. Sites with standing architecture or that encompass large areas may require more sophisticated mapping equipment, such as a total station or other survey instrument. Site maps will show all archaeological features, artifact concentrations, site boundaries, and other pertinent archaeological information. If collections are made, the locations of artifacts or sample collections should be noted on the site map.
- Team members will carry two notebooks, one for writing site descriptions and another for site mapping. The pages of the mapping notebook will be metric graph paper.
- Map scales should be precisely recorded in the notebook to facilitate later use. All maps will have a proper legend (including site number, survey area number, the archaeologists that created the map, and the date), a scale, and a north arrow.
- In locations with a relatively high density of archaeological remains, it is possible to draw the locations of properties in relation to special topographic features, such as mountains, valleys, rivers, etc.

Organization of Survey Data

The purpose of a systematic survey is to provide a complete or representative inventory of archaeological phenomena in a project area so that decision makers (which include archaeologists, managers, government regulators, and the interested public) can realistically balance the scientific and cultural importance of sites likely to be disturbed with the merits of the proposed development. To reach these decisions, we must have similar data for each site, and to do so, we must systematize the field data.

The goal of systematization is to enrich the information database through the documentation of newly discovered finds and properties during field survey. The probability of finding a large number of properties during the survey period is high; thus, daily systematization of all findings for inclusion in the information database is essential. Unless such data collection takes place daily, there is risk of inadvertent deletion of photographs, loss of written records, and the admixture of recovered finds, themselves. Such systematization activities include:

- Transfer of information about the newly discovered properties to information databases by means of a specially constructed table;
- Preservation of maps by digital scanning;
- Saving photographs by creating discrete, labeled folders on computer hard drives and on external media;
- Notes taken of the density and absolute number of properties and their size and freehand sketches of selected finds;
- Packaging and curation of finds according to associated serial numbers and descriptive materials; and
- Recording of the number and coordinates of properties on the package and double-checking for accuracy.

Excavation

There are two stages of the compliance process during which archaeological excavation may be conducted. The first is during **evaluation**, when the government agencies, the project sponsor, and interested stakeholders (local communities, descendant families, etc.) assess the significance of a resource. The second is **treatment**, when we have determined that a resource is significant for its potential scientific value and that systematic excavation, analysis, and curation of all or a sample of the archaeological deposits is the best way to mitigate the proposed development's impact to the resource.

Evaluation

Once archaeological resources in a project area have been identified, they need to be evaluated in terms of their significance. Archaeological resources can be significant for a variety of reasons. They may be associated with a particular event in history. They may have spiritual value, such as a place where people go to pray or perform rituals. They may be aesthetically important parts of the landscape. They also may contain scientific data that can assist in the understanding of the past.

From a compliance standpoint, we can divide the evaluation of archaeological sites into two components. The first is cultural value. Local residents as well as others with a connection to the site need to be consulted to determine whether the site has any spiritual or cultural value and what can be done to minimize the proposed impact to the site. Cultural value is best explored through ethnography and will be discussed in Chapter 4.

The second component of evaluation is determination of an archaeological resource's scientific value. We need to distinguish those sites that are worthy of some form of preservation treatment from those that are not. We refer to a site as "significant" if it meets the criteria for some form of protection and "not significant" if development can proceed without further work beyond site recording. Deciding between the two categories requires us to set significance criteria. Often, the criteria are a set of research questions that archaeologists have posed for the region. If a site has the potential to address one or more of these questions, then it is considered significant; otherwise, it is not significant.

In Chapter 2 of the Phase 1 report, we developed six research questions for Ömnögovi aimag that can serve as the criteria for determining the scientific significance of an archaeological resource. These are:

- How can extant archaeological data complement the historical record to help us define Mongol ethnicity (i.e., What is "Mongol culture," and when did it emerge as a distinct entity?) Similarly, can the archaeological record be used to define Turk, Uyghur, Khitan, and other ethnic groups mentioned in the historical records as critical elements of Mongolian history?
- How did changing climatic and environmental circumstances impact the development of culture in Mongolia?
- Can changing patterns in the exploitation of raw materials be detected in the prehistoric archaeological record? What might the explanations be for these changing patterns of exploitation?
- Does the spatial distribution of archaeological sites allow reconstruction and interpretation of changing patterns of human-landscape interaction?
- Is it possible on the basis of archaeological evidence to detect and interpret past human definitions of and interactions with "nonempirical" environments? That is, at what point do "sacred spaces" of various types manifest themselves in the archaeological record?
- To what extent can the archaeological remains of Ömnögovi aimag be associated with historically known places and people? In other words, how can Mongolia's historical and archaeological records complement one another to yield the richest possible understanding of the genesis and florescence of the genesis and of the successive cultures on the territory of present-day Mongolia?

Depending on the particular set of resources being evaluated, archaeologists may choose to refine these questions. The specific set of research questions that will be used needs to be explicitly stated in the research design for the evaluation project.

Excavation during the evaluation phase is limited to the amount necessary to determine whether the resource can address the project-specific or regional research questions. Generally, evaluation should require no more than a few test pits to determine whether subsurface archaeological deposits or features exist and the overall integrity of the resource.

Treatment

For resources determined to be significant, a treatment plan needs to be developed. Treatment can consist of a variety of options. The project can be redesigned to avoid the archaeological resource. Avoidance, however, needs to be monitored. Often a road, for instance, will be redirected around the site, but unless access to the site is restricted, the presence of the road may actually increase the likelihood of looting. Avoidance, then, does not mean that the project sponsors can forget about the site but requires an “active” management plan. Even sites that will be avoided should have some archaeological investigations performed. To manage a site, it is important that the responsible parties know what they are managing.

Significant resources that cannot be avoided need to be treated through scientific investigations. Investigations need to be carefully constructed to insure that the scientific potential of a resource is met. Often, intensive excavation is required, followed by adequate laboratory tests and analyses, which are then fully reported and interpreted in a scientific report. All project materials then should be curated so that future investigators have access to them. Additionally, public products should be developed as part of a treatment plan. These can include brochures, popular reports, books, newspaper articles, and the like, as well as site tours, school programs, and lectures.

Excavation Methods

Excavation can be divided into three steps: field preparation, fieldwork, and analysis. Each step is described below.

Field Preparation

The first step is to prepare a project-specific work plan and research design. Such a plan will be needed for both evaluation and treatment. The document needs to present:

- Why the excavation is taking place,
- What research questions will be addressed,
- The field and laboratory methods used to address those questions,
- The personnel who will be used, and
- A budget and schedule for the project.

Once the work plan and research design have been approved, the project team and equipment need to be assembled.

Fieldwork

Upon arriving at a site, the first step is to review the excavation plan with the field crew, pointing out where excavations will take place and how they will be conducted. Next, the entire site is documented with photographs to show its condition prior to excavation. These photographs and all subsequent photographs during the excavation should include a north arrow and a letter board identifying the site number, site name, date, institution, and subject of the photograph. The modern surface of the site is then shovel skimmed, revealing the parameters of the archaeological resource. The site is documented again by photographs. A set of base maps is then created at various scales, such as 1:10, 1:20, and 1:40, using mapping instruments.

The division of labor will depend on the size and nature of the excavation. For evaluation projects, excavations will be confined to small units, such as 1-by-1-m or 2-by-2-m test pits. Intensive excavations during treatment may require block excavations on the order of 5 by 5 m or 10 by 10 m. In these cases, the block will be subdivided into smaller 1-by-1-m or 2-by-2-m units, and each unit will be excavated separately.

Each test pit will be excavated by natural strata or in arbitrary levels no thicker than 10 cm, depending on conditions. The fill from the unit will be screened through either $\frac{1}{4}$ -inch (0.6-cm) or $\frac{1}{8}$ -inch (0.3-cm)

hardware cloth mesh, unless otherwise specified. Once sterile soil has been reached, scaled profiles of two adjoining walls will be created using line levels and metric tapes. Digital photographs of each profile also will be taken. Samples, including soil, pollen, and radiocarbon, will be taken from profiled walls, and sample locations will be indicated on the profile.

Upon discovery of a feature, the area of the unit covered by the feature will be left as a pedestal. If necessary, similar pedestals will be left in adjoining test units so that the feature can be excavated as a unit. Each feature will first be drawn in plan and photographed. Next, it will be sectioned so that half the feature is completely excavated. Excavation will proceed by natural strata, if present, or arbitrary levels of no more than 10 cm. The feature's profile will be drawn to scale using line levels and metric tapes; digital photographs also will be used to document the profile. The second half of the feature will then be excavated and photographed. Depending on the size and nature of the feature, the entire fill may be saved for laboratory analyses, such as pollen and macrofossil analysis, or samples may be taken from the profile after it has been sectioned, and the remaining fill may be screened through hardware cloth mesh. Generally, the mesh should be no larger than $\frac{1}{8}$ inch (0.3 cm) for features, and window screen (varies between $\frac{1}{14}$ inch [0.19 cm] and $\frac{1}{30}$ inch [0.10 cm]) may be used if extremely small items, such as faunal remains, are expected.

Burials will be excavated in a similar manner to the excavation of other features, with the exception that each bone will be pedestaled until the entire skeleton and all funerary objects are uncovered. The remains will then be drawn and photographed before removal.

One of the most important aspects of an excavation is documentation. All excavations should include, at a minimum, level forms, feature forms, provenience lists, artifact logs, photograph logs, and sample logs. All artifact and sample bags should have provenience information written on them and on flagging tape (or a similar medium) that is put inside the bags. To the extent possible, this information should be kept in a computerized database that allows the project participants to track samples and artifacts from the time they are excavated until they are curated at the end of the project.

Additionally, field supervisors should keep field notes that summarize the progress, findings, and preliminary interpretations. Notes should also describe how the findings match expectations and in what ways they deviate. Any changes in the work plan should be fully described and explained.

Laboratory Analysis

Once fieldwork is concluded, artifacts, samples, photographs, drawings, field notes, and all project materials need to be returned to the laboratory. An inventory needs to be created, and all artifact bags and samples need to be checked against field forms, such as provenience lists and logs. Field forms also need to be checked for completeness and, whenever necessary, have corrections or additions made to them. Artifacts should be washed as appropriate for the material class. They then need to be sorted by material class and rebagged with new tags. Pollen, flotation, radiocarbon, and other specialized samples should be processed as appropriate and prepared for submission to a specialized laboratory.

Artifact analyses should be coordinated and conducted according to the work plan and research design. Analyses should be conducted for all material classes recovered. The most likely material classes encountered in the South Gobi are lithic, ceramic, bone, and metal. For evaluation projects, analyses may take the form of simple identification with little interpretation. The purpose at this point is to determine what the collection consists of and what research questions might be addressed with larger and more diverse collections. Material analyses for intensive excavations, in contrast, should be designed to address one or more research questions. The types of observations, measurements, and comparisons made during the analysis should elucidate the relationship between this class of artifacts and the human behavior in question, at the same time allowing for comparison with other collections from the South Gobi and beyond.

Paleoenvironmental analyses should be performed as part of excavations conducted for evaluation or treatment. These should include pollen, phytolith, paleobotanical, faunal, soil, and chronometric analyses. During evaluation, it may be necessary to conduct one or more of these analyses on a small number of samples to determine whether further research should be conducted during treatment. During intensive excavations conducted as part of treatment of a significant resource, paleoenvironmental studies should focus on placing the resource in its proper environmental setting as well as determining the subsistence practices employed by the ancient inhabitants. The number of samples analyzed per class will depend on the nature of the site and the types of research questions addressed.

Reports

Each type of excavation—evaluation and treatment—requires a separate report. An evaluation report is essentially an argument about whether a resource is significant and warrants some form of treatment. The result of an intensive treatment excavation is an academic monograph that presents the scientific findings and interpretations of the project.

Although they have different purposes, the two reports share a similar structure (see Chapter 5). Reports begin with background information: why the project is being undertaken and the cultural and environmental setting. Next, the research designs, presented prior to the project in the work plan, are described, along with any changes that occurred during fieldwork or analysis. Methods are presented, followed by descriptive chapters detailing the results of fieldwork and analyses. An interpretive chapter completes the document. For evaluation, this last chapter focuses on what, if anything, the resource may yield if intensive excavation takes place. For treatment, the interpretation relates to the research questions posed for the resource. A bibliography and appendixes that detail laboratory tests, chronometric dates, databases, and so forth complete the report.

In the case of a large intensive excavation, a report detailing the results for the public should be prepared. Public reports can take various forms, including brochures, books, newspaper articles, magazine articles, television shows, web pages, etc. The exact form of public product should be outlined in the scope of work from the project sponsor and in the proposal to complete the work.

Curation

The last step in an archaeological project, whether survey or excavation, is the curation of all project materials. Currently, the only repository that exists in Mongolia is at the MASIA in Ulaanbaatar. As part of the CHP, a repository will be established for the South Gobi in Dalanzadgad. Most material from the South Gobi should be kept in the Dalanzadgad repository. Some fragile or rare objects, however, may need to be curated in Ulaanbaatar.

Paleontology

Fossils are rare in the geological record, but when these nonrenewable resources are found in rock layers, they can provide important information about past environments and climates; the fossils' relative ages and, in some cases, absolute ages; and their paleogeographic locations. Fossil assemblages provide information about ecological interactions and the evolution of biotic communities. Paleontological resources in Mongolia consist mainly of fossil vertebrates (most notably, dinosaur fossils and dinosaur trackways—that is, footprints) and petrified wood. These resources are typically unique or rare, nonrenewable resources that constitute an important part of Mongolia's natural heritage. They are primary data for reconstructing past life forms on Earth and among the primary means of studying evolutionary patterns and processes as well as environmental change.

Since the 1920s, stemming from the early investigations of the American scholar and explorer, Roy Chapman Andrews (see Chapter 3, Phase 1 report), in the South Gobi, Mongolia has been recognized internationally as a critically important source of dinosaur fossils. The early fossil record of Mongolia extends back in time from about 150 million years ago to about 65 million years ago (from the upper Jurassic through the upper Cretaceous), and later Ice Age (Pleistocene) fossil vertebrates are also known.

Researchers affiliated with the Joint Mongolian-Soviet Paleontological Expedition working during the 1970s and 1980s and the Joint Mongolia-Japan Paleontological Expedition, which began its work in 1990, have discovered and analyzed many unique finds at sites in the South Gobi, some of which are identified as new genera and species. In particular, herbivorous/carnivorous dinosaurs discovered thus far include *Segnosaurus galbinensis*, *Erlikosaurus andrewsi*, and *Enigmosaurus mongoliensis*; carnivorous dinosaurs include *Garudimimus brevipes* and *Alectrosaurus olsoni*; and herbivorous dinosaurs include *Quaesitosaurus orientalis* and two new genera and species of hadrosaurid and pachycephalosaurid dinosaurs. Subsequent collaborative studies by paleontologists in Mongolia with those of the American Museum of Natural History (mainly, Michael Novacek and Mark Norell) have continued to advance paleontological research since the early 1990s.

In this chapter, we outline the principal approaches used in paleontological inventory, evaluation, and treatment. Although these stages parallel those described earlier in this chapter for archaeological investigation, it should be noted that many methods of investigation and curation are unique to paleontology, such as the preparation and conservation of vertebrate fossils. This section ends with brief discussions of report preparation and curation, paleontological monitoring, and designing a public program aimed at providing educational benefits.

Inventory

The first step in the compliance process for paleontological resources in Mongolia is to review records of registered paleontological sites that exist in and near areas proposed for land-disturbing activities (hereafter referred to as the “project area”). Paleontology site file searches are done at the Paleontological Center of the MAS in Ulaanbaatar, the national repository for paleontology site records and for the curation of fossil specimens. The records search must cover paleontological sites in both the Direct and Indirect Impact Zones of a project area. As with archaeological resources, direct-impact areas are those portions of a project area in which earth-moving activities are planned, and indirect-impact areas include areas outside direct-impact areas in which the potential for damage from activities, such as looting, is increased because of the development of the region and the influx of people.

Next, high-resolution maps must be studied to search for and analyze geological units to assess where as-yet-unrecorded paleontological resources may occur. The scale of geological maps can vary substantially from one area to the next. Consequently, this preliminary assessment is often insufficient for creating a reliable model of the probability that particular areas will contain paleontological resources. Nevertheless, consideration of geological maps is an important step after completion of a records search.

As with archaeological sites, paleontological localities may occur either on or beneath the surface. But unlike archaeological sites, there is significantly greater potential for paleontological sites to be much more deeply buried below the surface. In Mongolia, vertebrate fossils, especially the osseous remains of dinosaurs and their trackways, and early mammal fossils have the greatest potential scientific significance, and so modeling the probability of paleontological site locations should concentrate on Jurassic and Cretaceous geological deposits that may contain such remains. Sites at which petrified wood is concentrated also are considered to be significant paleontological resources. Most of these paleontological resources occur in sandstones or mudstones that formed from the consolidation of sediments in a variety of depositional settings, mainly aeolian, fluvial, and lacustrine environments.

Reconnaissance

Initial reconnaissance revisits registered paleontological sites. Basic recording is done at this time to refine the location and extent of the site by recording GPS coordinates (e.g., latitude/longitude and/or the UTM system). Such reconnaissance is conducted via a systematic pedestrian survey of the site to determine its approximate boundaries as well as the locations of individual fossil specimens and outcrops where fossils are concentrated. Spatial data are documented by recording GPS coordinates and producing a map based upon this information, often by superimposing it on aerial photographs. Notes on the types of fossils, the condition of the site, information on the geological setting (e.g., formation, rock types, depositional/environmental setting, and any other noteworthy observations) are recorded. Documentary photographs are also taken. If significant fossil specimens that appear to be in imminent danger of damage or loss (for example, by natural erosion or looting activities) are found, then representative specimens are collected at this time. Alternatively, they may be protected by covering them with sediment to reduce erosional effects and/or obscure them, reducing the likelihood that looters will discover them. Because the condition of paleontological localities may change over time as underlying deposits are exposed by erosion and sheet-wash, it is important to visit significant paleontological sites repeatedly to gauge whether looting activity or erosion is causing damage to the sites.

Survey

Systematic surveys that focus on proposed impact areas in development projects are performed after reconnaissance-level investigations have been completed. Such surveys should take advantage of information gleaned from geological maps as well as core logs, when available. Core logs are especially important for accurate evaluation of the probability of buried paleontological sites in proposed impact areas. If such geological information is unavailable, then a sample of the proposed impact area or, preferably, the entire proposed impact area should be surveyed by a team of paleontologists. Any sites found during such surface surveys are recorded as described in the previous reconnaissance section and then formally registered as sites at the Paleontological Center of the MAS.

Evaluation

The purpose of paleontological evaluation is to distinguish those localities that warrant preservation from those that do not. Sites are regarded as “significant” if they can provide data relevant to addressing important research questions. At the evaluation level of investigation, sites are determined either to meet criteria that warrant some form of protection or to be “not significant,” in which case development can proceed without further work beyond recording site locations and carrying out surface collections. Sites that cannot be avoided are then mitigated by some form of treatment, as discussed below. A preliminary research design should be formulated before an evaluation is conducted at a particular paleontological site or series of localities.

Paleontological sites are always evaluated first in terms of their stratigraphic integrity and their potential to yield data essential to answering important research questions. Sites that lack stratigraphic integrity, such as those that are extensively eroded and that only contain fossils left on the surface as lag deposits, have limited ability to address research questions. Such sites are considered to be not significant. The exact stratigraphic context of a paleontological locality is crucial. Sites lacking such contextual data have lost much of their scientific value, because in such cases, we can know little more than that an individual animal, or set of animals, lived and died in that location.

In contrast, when contextual data are preserved and then systematically documented and studied, paleontologists can reconstruct how animals lived, determine which species lived in association in particular ancient habitats, and reconstruct past environments and ecological communities from the fossil assemblages in their original geological contexts. This kind of scientific information becomes increasingly valuable and important in paleontological research. Depending on the particular fossils or fossil assemblages documented at one or more localities during the evaluation stage and combined with data on their geological and ecological contexts, more specific, interrelated research questions can be formulated to help guide subsequent investigations conducted at the treatment level for those cases in which it is not possible for a development activity to avoid such significant sites.

Field methods at the evaluation level of investigation include surface examination that is more detailed than that conducted during the initial recording completed during the reconnaissance or survey stages. A more detailed map of the site created using an electronic total station, usually in combination with the collection of additional subcentimeter high-resolution GPS data, for instance, may be required. A representative sample of fossils may be collected, as well. It is important to collect enough fossils to evaluate the research potential of a site after subsequent analysis of the fossils is completed in the laboratory. The types of geological formations and depositional environments (e.g., fluvial, aeolian, and lacustrine) are documented in greater detail than during previous site visits. Additional photographs should be taken, and information on the stratigraphic integrity of different parts of the site should be documented.

Based on the results of field and analytical studies at the evaluation level of investigation, a recommendation is made as to whether more work at the site has the potential to inform in regard to the overarching research questions. For example, previous studies have shown that dinosaur fossils and other remains recovered in Central Asia indicate that the region was the center of dispersal of the hadrosaurid superfamily of “duck-billed” dinosaurs, a group that occupied extensive areas of North America, as well. Paleontological sites that can contribute to this and other significant research domains will be regarded as significant. In such cases, significant sites will need to be avoided entirely or at least competently excavated prior to construction. If the site is deemed to be not significant, then the development project can proceed without further paleontological study.

Treatment

As with archaeological sites, the avoidance of paleontological sites is generally the preferred treatment. In cases for which avoidance is impossible, the most common form of treatment is scientific excavation and collection of fossil specimens according to a detailed site-specific research design that includes analysis, reporting, and curation. To the degree possible, paleontological excavations should also include a site-specific public program that includes site tours for nearby schools, public lectures on the results presented at soum cultural centers, and exhibits in soum museums. Treatment, if not avoidance, will be detailed in a work plan and research design specific to the mitigation of one or more paleontological sites in the development impact zone.

Field Methods

Field methods include making a very detailed survey of the site and marking fossil specimens with pin flags. A detailed map of the site is made using such instruments as a total station and/or a high-precision ground-penetrating radar unit, possibly in combination with lidar (Light Detection and Ranging, an optical remote-sensing technology that can measure the distance to or other properties of a target by illuminating the target with light, often using pulses from a laser), to create a high-resolution topographic map showing the locations of buried fossil specimens. All fossil specimens are collected, and the provenience of each one is keyed to the detailed site map.

Based on the results of the detailed survey, all or a large sample of those fossils with the highest degree of integrity is excavated. Each excavation area is mapped in detail, and photographs are taken during the excavation process.

Analytical Methods

After fossils are cleaned and stabilized, they are then analyzed by one or more paleontologists. After a catalogue of fossil specimens is created, analysis of individual specimens can proceed. Analysis of paleontological specimens focuses on determining the taxa of the animals represented, along with information on the ages of the individuals and other noteworthy observations, such as traumatic injury, pathologies appearing in the fossils, and their state of preservation. It is important to conduct such analyses of fossils in comparison to those of identical or similar species in other locations.

To understand evolutionary processes and relationships between species and assemblages documented at paleontological localities, it is necessary to compare fossils of different animals to one another and to fossils from other sites. In order to do this, researchers must be able to compare new specimens with those previously unearthed. Only when fossils are properly collected and curated in public institutions, such as those in the collections of the Paleontological Center of the MAS in Ulaanbaatar as well as aimag and soum museums, can researchers access specimens and make the necessary comparisons. After these comparisons are made, scholars and the general public benefit greatly by having access to new, more refined interpretations. The data from paleontological analyses must be aggregated in a relational database to enable thorough data analysis and to enhance long-term data management for subsequent studies.

Report Preparation and Specimen Curation

A detailed technical, scientific report must be completed and submitted to the regulatory agency and sponsor at the end of the project. A draft of this report will be reviewed by the regulatory agency and sponsor, along with qualified outside peer reviewers, and a final report will be produced and distributed to agency and sponsor, soum and aimag officials, and professional paleontologists worldwide. The sponsor should provide funding for paleontologists to present the results of their work in peer-reviewed journals (most of which now charge page costs to individual authors) and at professional meetings, at least for those projects that yield the most significant findings.

Paleontological collections must be prepared for curation using standard, internationally accepted procedures and then curated at a certified repository. The only national repository for fossils in Mongolia is the Paleontological Center of the MAS in Ulaanbaatar. Ideally, the SGCHC repository will be equipped to safely curate paleontological specimens, as well.

Paleontological Monitoring

Paleontologists must monitor areas in which fossil resources may be damaged during the course of development projects that entail ground disturbance (e.g., mining, pipeline and road construction, reservoir construction, and other subsurface disturbances). The locations in which paleontological monitoring is warranted will be determined by a certified paleontologist and based on data obtained from geological maps, previous paleontological studies, geological core logs, and other pertinent data. If fossil specimens are exposed by ground-disturbing activities, then further activity must cease in that area until paleontologists can recover the threatened fossil specimens. As with the site-recording and evaluation activities previously discussed, such paleontological finds will be documented by recording high-resolution spatial coordinates and preparing detailed plan maps, photography, and thorough field notes.

Public Programs

Public programs should be designed so that results of paleontological investigations are made available to the public, especially to those at the aimag and soum levels. A wide range of public programs are possible, including popular (that is, nontechnical) published reports, newspaper articles, lectures presented in soum cultural centers, exhibits in soum museums, and school tours. It is crucial that the public receive such benefits as these to advance educational, and possibly tourism, opportunities while simultaneously increasing public awareness of the value of Mongolia's paleontological heritage.

Historic Architecture

Ömnögovi aimag has a number of Buddhist monasteries and other historical monuments. Most of these places are in ruins and were purposefully destroyed by the Soviets. Some of the sites may be beyond repair, but others can be restored. If done properly, there is much to commend the restoration or reconstruction of a historical monument. If done poorly, this work can actually destroy the historical and cultural value of a place.

The reconstruction of Demchig Monastery, sponsored by OT, is an example of both the promise and potential pitfalls of this type of endeavor. Much work went into this effort, and the result is visually stunning. However, it is not a valid representation of the historical monastery, and visitors who think they are visiting an authentic site are being misled. The final result may appeal to foreign tourists, but it does little to enhance the cultural heritage of Ömnögovi aimag. Indeed, the reconstruction, placed on top of the ruined monastery, has disturbed archaeological deposits and may have destroyed any chance that the local population will learn about this important location.

In this section, we present a process by which stakeholders can usefully engage in decisions about architectural restoration and reconstruction. The process is adopted from the Burra Charter, which is discussed below.

The Burra Charter

The restoration of historic buildings is an extremely valuable course of action, returning ruins back into everyday use and enabling visitors—Mongolian or foreign—to see and experience the cultural heritage to a greater degree. However, it is also a subject with philosophies that diverge between the European and East Asian traditions. This is best summarized in the document by the Getty foundation available at http://www.getty.edu/conservation/field_projects/china/china_publications.html. The key difference between the

traditions is embodied in the concept of “authenticity” of the remains and the finished work. The western preference is to preserve all original fabric (restoration), and the eastern approach favors rebuilding (or reconstruction). The methodology described below is a synthesis of eastern and western approaches, acknowledging that both restoration and reconstruction may be appropriate outcomes and that each must be the last of a number of stages of work.

The fundamental reference on the subject is to be found in the Illustrated Burra Charter published by the International Committee on Monuments and Sites (ICOMOS) Australia (see <http://australia.icomos.org/publications/charters/>).

The Burra Charter identifies three levels of repair for heritage structures. These are:

- **Preservation:** maintaining a structure in its existing state and preventing or retarding further deterioration.
- **Restoration:** returning a structure to a known earlier state by the repair of existing fabric *without* the introduction of new materials. Normally, this is acceptable only if there is sufficient evidence of an earlier state of fabric.
- **Reconstruction:** returning a structure to a known earlier state by the introduction of new material into any remaining fabric. This normally is appropriate only for cases in which a place is incomplete because of damage and there is sufficient evidence to reproduce an earlier state of the fabric.

In addition, **New Work**, such as additions to a site/place/ruin, may be acceptable if it does not distort or obscure the aspects that make the place significant or detract from its interpretation or appreciation.

In general, the preference is to do as little as possible—that is, to favor preservation if it will achieve the desired objectives, then move to restoration if needed, and attempt reconstruction only as a last resort.

The Burra Charter process is widely used and is reproduced below (Figure 3.1).

Task 1. Understanding the Place: Survey and Investigations

The first task is to arrive at a thorough understanding of the site/place as it is found. This will require a complete survey of aboveground remains (by theodolite, GPS, and hand-drawn elevations of standing fabric) as well as detailed photographic recording.

These will usually be accompanied by investigations of belowground archaeological remains, because the standing structure is usually the last of several, sometimes many, phases of use and occupation. The archaeological remains may be as important as the standing ruins. Historical research on the specific site and similar sites will also be undertaken to inform about the site and its original form, fabric, and function and thereby to guide the rest of the process, as outlined below.

It will usually be necessary to analyze materials used in the ruined structure—for example, identify woods used, the constituent parts of mortars, the sources of stone used for building, etc.

Task 2. Identify Importance or Significance

The second task will be to identify what it is about the ruin/site/place that is important and to whom it is important. Importance will be judged along several criteria. Intrinsic (scientific) importance is one criterion, and it is usually compared with use value to local communities and traditional/sacred qualities to local faith groups. The Burra Charter identifies five values or criteria for assessing significance: aesthetic value, historic value, scientific value, social value, and spiritual value. It may be appropriate for one to outweigh the others in the process of assessing significance (or “value” in Charter’s terms). The loss of importance of one type by undertaking reconstruction, for example, should only be done after careful thought and consultation with other affected groups and only when the action undertaken produces a benefit that clearly outweighs the other consequential loss of importance.

It will be important to note that not all aspects or parts of sites are equally important and that reconstruction of some parts may not entail a loss of valuable remains, whereas even small-scale restoration of very important and sensitive aspects may entail an unwarranted loss.

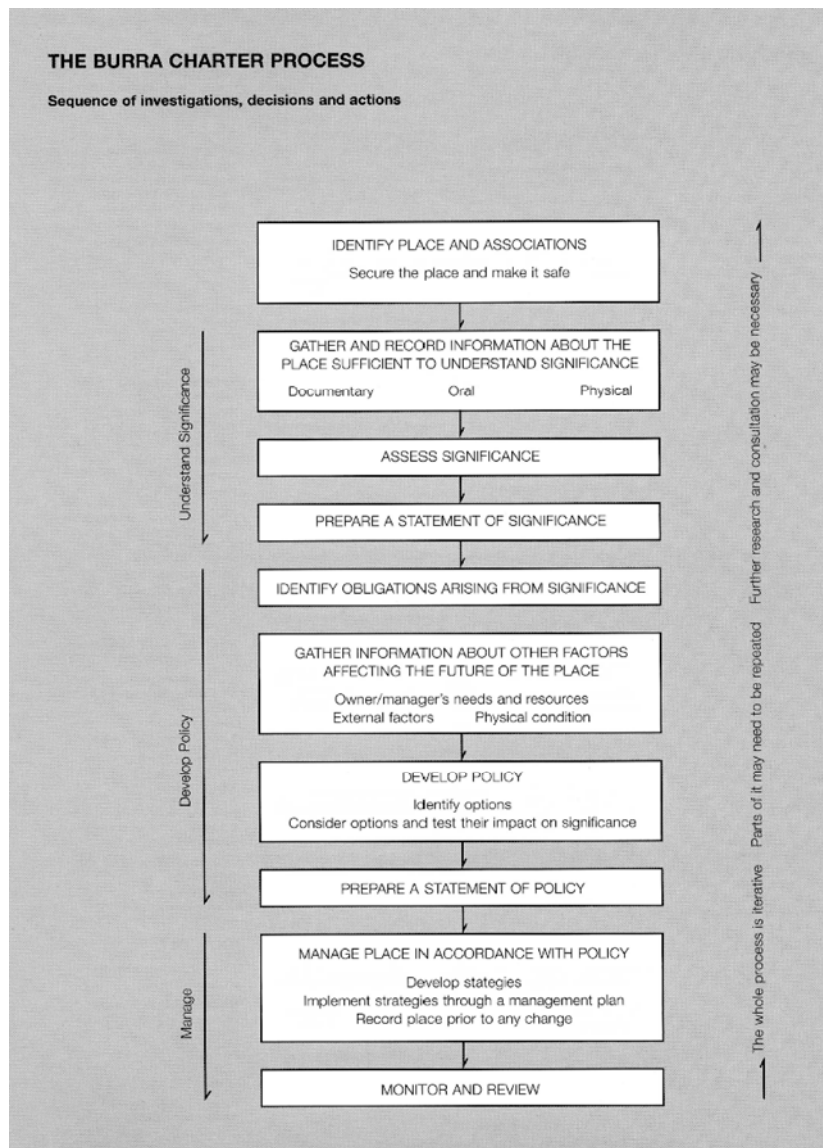


Figure 3.1. The Burra Charter process.

A concept linked to significance is that of “authenticity.” Authenticity can be understood as the requirement to be genuine—i.e., the aspect should be truly what it is claimed to be. This aspect of “genuineness” could have many parameters, including form and design, materials and substance, use and function, traditions and techniques, location and setting, spirit and feeling, and other internal and external factors, and was the subject of a conference held in Nara, Japan, in November 1994 (Nara Conference on Authenticity in Relation to the World Heritage Convention).

Task 3. Assess Vulnerability and Opportunity

The next step will be to assess, for a site/place/ruin, which parts or aspects that are considered important are also vulnerable to unwanted change. Alternatively, there will be an assessment of the opportunities for change that are possible with little or no harmful effects on significant aspects of the site.

By this point in a process, many of the stakeholders may have formed ideas of what they want to happen to a site/place/ruin. This stage is a crucial one that will be carried out scrupulously and transparently and documented clearly, so as to avoid any unnecessary changes to significant/authentic parts of a site. The various outcomes desired by stakeholders will be individually tested against the significance and vulnerability of a site or its various component parts.

Task 4. Design Works

The principals of the fourth stage are to maximize the survival of the significant (or authentic) parts of a site/place/ruin and to minimize changes that would damage significant aspects. It is often impossible to preserve everything considered significant, and few site-management goals can be achieved without some damage.

There is unlikely to be a wrong or right solution, and thus working through this staged process with all interested stakeholders will generally lead to a solution that is satisfactory to most.

Design works will usually be accompanied by further recording of what is found at a site/place/ruin, including archaeological excavations and an “archaeological recording” of the ruins or standing structures.

A point of difference between the Eastern and Western approaches to restoration/reconstruction is the treatment of new work and the introduction of new materials. It will be normal practice that

- Authentic ancient work/materials will be preserved wherever feasible (i.e., the site’s authenticity will be maintained);
- Where possible, new work will use materials that are sympathetic with the original fabric (i.e., use of similar mortar mixes, stone, brick, and/or wood); and
- New materials added will be distinguishable from the old but should not “clash” with the old.

The early work investigating the site will be reviewed in the design stage to inform the use of materials, the design of repairs, and the place/degree of restoration or reconstruction.

Task 5. Implementation of Preservation, Restoration, or Reconstruction

Works affecting heritage sites/places/ruins will normally be undertaken by craftsmen familiar with the traditional materials. General construction teams are unlikely to be appropriately skilled, jeopardizing the desired outcome.

Works, whether conservation, restoration, reconstruction, or new work, will usually be accompanied by interpretation, to enable visitors and users to understand what is original and what is new and what is significant and why (and to whom); these will be written and illustrated in a culturally appropriate manner.

Summary

The Burra Charter, for all its value and strength as an international charter, is both complex and time consuming and is unlikely to be appropriate for smaller or simpler sites. Taking into consideration the whole of the charter, attention is drawn to Paragraph 157, which outlines what the charter calls “Mini Conservation Plan: Record, Maintain, Preserve.” This, with the addition of further alternatives, including restoration, reconstruction, and new work, is recommended as a basis for site-management planning for architectural remains in Ömnögovi aimag.

Public Programs: Intangible Heritage, Education, Museums, and Heritage Tourism

This chapter outlines a comprehensive approach to public programs. These programs are designed to be stand-alone, ongoing, and regionally based and are not tied to a particular development project, such as a road or a transmission line. Their schedules are tied to social events of communities, such as the school calendar or traditional festivals, and not to the vicissitudes of economic development. For the purposes of the CHP, public programs are divided into four categories: intangible heritage, education, museums, and heritage tourism. The implementation of each will be discussed in turn, below.

Intangible Heritage

Intangible heritage comprises those aspects of culture that consist of social actions or beliefs and are used to define and maintain social groups. Examples of intangible heritage are Buddhist rituals that link individuals with a particular religious group and, at the same time, distinguish them from other religious groups. Language is one of the most common types of intangible heritage, for the dialect one acquires upon learning a language is often used as a social marker of where one grew up, the ethnic group one belongs to, and social status. Rituals and language share a feature common to many types of intangible heritage: they exist only in the moment of their creation. Once a ritual is complete or a sentence spoken, there is no lasting physical entity that represents the social action. Although all intangible heritage resources are based on social actions and/or beliefs, not all intangible heritage resources lack physical form. For example, metalworking is an important intangible heritage in Ömnögovi aimag. Although the traditional process of silversmithing, for example, is the actual intangible heritage, the silver jewelry and artifacts that are the products are important aspects of the resource in that they encapsulate and represent the tradition. A physical landform is another type of “tangible” intangible heritage. At first, it may seem like a contradiction that a mountain, for instance, could be considered an intangible heritage resource. But individuals of a particular group may ascribe to the mountain spiritual values that are critical to the well-being and maintenance of that group. In such cases, the beliefs are intangible, passed down in stories and rituals. Disturbing the mountain by such activities as quarrying, roads, or transmission lines may affect the values associated with the landmark and thereby jeopardize the well-being of the group.

Prior to the CHP design, no systematic work had been performed to determine whether intangible heritage resources existed in Ömnögovi aimag, what those resources might be, whether they were important, and what should be done about them. As detailed in the Phase 1 report, the ethnographic work conducted for the CHP design addressed just these questions. Table 4.1, reprinted from the Phase 1 report, is a useful summary of the intangible elements that merit some form of treatment. A distinction is made regarding “active” compensation activities, in which resources of time and money are committed to local groups to aid in the management of the rate of change, typically via adult “education” activities; these are used in cases for which the intangible heritage is considered more important by the local communities *and* is “threatened” by cultural change. A range of other elements will be treated in a more passive manner (they may be less important or less directly affected by rapid culture change), via an ethnographic record of the traditions, which has as a secondary benefit promotion of the tradition and its importance by engaging local communities in activities that prominently feature and celebrate the customs.

Table 4.1. Intangible Heritage of Ömnögovi Aimag

Means of Transmission of Intangible Heritage			Significance and Value of Intangible Heritage				
Name of Intangible Heritage	People Embodying Intangible Heritage	Means of Transmitting Knowledge	Distribution (Area)	Coverage (People)	Current Usage and Future Tendency	Significant to Whom?	Threatened?
1	Metalsmithing.	People who learned from traditional craftspeople and through training like Borkhuu in Javkhlang <i>bag</i> , Khanbogd <i>soum</i> .	Inherited silver bowls and bracelets are distributed throughout the area.	Difficult to determine; can be people who inherited objects.	Metal crafting is well developed in the area; it has market space according to demand of silver bowls, saddles, and saddle cloths.	Silver bowls are significant to every family and lineage, and people ascribe meaning to them. Old styles of silversmithing are unfamiliar to the public, and new styles are developing.	Not significantly threatened. Metalworking and especially silversmithing is flourishing.
2	Other material culture: snuff bottles wooden containers , felt carpet making , <i>Dugltuur</i> and <i>Toirog</i> , animal brands .	Many herding families have inherited snuff bottles and use wooden containers and felt carpets. Every herding family uses animal brands.	In all four <i>soums</i> .	Descendant herding families.	High usage.	Most of these inherited objects, including brands, carry important information about ancestors and symbols.	Not significantly threatened. Items have reappeared after the Socialist period and seem once again to be cared for.
3	Making and living in Mongolian <i>gers</i> and <i>ger</i> facilities.	Most herding families live in <i>gers</i> , and they embody the knowledge about them.	In all four <i>soums</i> .	All herding families.	High usage, except in a few cases.	Living in a <i>ger</i> as pastoral way of life is comfortable to herders. But using traditional facilities is inconvenient.	No evidence for a significant effect. However, the drift to <i>soum</i> centers and away from traditional herding poses a longer-term threat .

Means of Transmission of Intangible Heritage				Significance and Value of Intangible Heritage				
	Name of Intangible Heritage	People Embodying Intangible Heritage	Means of Transmitting Knowledge	Distribution (Area)	Coverage (People)	Current Usage and Future Tendency	Significant to Whom?	Threatened?
4	Religions: Buddhism and Shamanism.	Followers, believers and worshippers; official practitioners (Buddhist clergy).	Deity images and sutra texts are inherited from ancestors.	In all four soums.	Public.	In high usage; increases community and group identity and social networking.	Significant to public.	Present evidence suggests Buddhism is flourishing. Buddhists may see Evangelical Christianity as a “threat,” but the disinterest or apathy from the socialist philosophy may be more damaging.
5	Deity images and ritual objects.	Most families, adults and elders, know about them.	Inherited from ancestors or newly worshipped.	In all four soums.	All households.	High usage.	Significant to worshippers.	As above.
6	Und—milk tea with rice and meat.	Herding families adhere to a traditional diet, and herders know about und and other traditional foodstuffs.	Growing up in a pastoralist family.	In all four soums.	All herding households.	High usage in pastoral way of life. When herders move to soum center, it will change.	Significant to all herding families. Knowledge of herbs and plants used for food is being forgotten.	Threatened. Knowledge and use of traditional resources are being replaced by reliance on prepared foods purchased in the soum center.
7	Tsulkhir and Bajuun flour.	Elders in four soums, including Bataa, Rashnyan, Buntan, and Tsendeehuu.	Experienced in their childhood through preparation and usage.	There are capable elders in all four soums.	Elders and certain groups of people.	Usage as food is reduced. Medical usage is well known.	People barely know it. It is an important part of Gobi peoples’ knowledge of herbs, plants, and related culture.	Threatened, as above.

continued on next page

Means of Transmission of Intangible Heritage			Significance and Value of Intangible Heritage					
	Name of Intangible Heritage	People Embodying Intangible Heritage	Means of Transmitting Knowledge	Distribution (Area)	Coverage (People)	Current Usage and Future Tendency	Significant to Whom?	Threatened?
8	Kin relationships: revival of lineage names and kinship relations.	Only a few people have detailed knowledge, like Sukhbaatar in Bayan-Ovoo. Each family member knows her/his kinship affiliation.	Within family and kin relationship.	In all four soums.	Involves all families because of government policy to revive lineage names.	It must be written in official identification; other functions not clear.	Some kin groups have meetings and festivals.	Revival seems firmly established.
9	<i>Urtyn duu</i> and blessing poem	<i>Urtyn duu</i> singers who learned from previous singers. They include Tseenzen, Bataa, Aviraa, and Byambaa.	Learned from balladeers individually and in traditional family contexts.	All four soums have balladeers.	Two to three people in each soum.	Interest is high; however, proper melodies and lyrics are lost. There is interest in singing unknown ballads.	Balladeers place great significance on this heritage and emphasize that it will be lost soon.	The disinterest or hostility of the Socialist period has been damaging. Clearly threatened.
10	Games: stone <i>ger</i> building and other games, such as <i>shagai</i> (ankle-bone shooting)	Herders older than 40 years of age played Building the Stone <i>Ger</i> , but it is now no longer played. <i>Shagai</i> players.	Learned as part of the pastoralist way of life. Learned from previous generations of players, individually and as a team member.	In all four soums.	Herders older than 40 years, distributed within players.	Being forgotten High interest and participation since the 1990s.	Significant to those older than 40. An important aspect of heritage relating to the pastoral lifeway. Significant to men; can learn traditional customs (reverence for elders, etc.).	Revival of <i>shagai</i> , but other aspects increasingly forgotten. Threatened.
11	Taboos of Gobi people.	Herding families maintain traditional customs and taboos.	Learned as part of the pastoralist way of life.	In all four soums.	Inherited within herding families.	Maintaining taboos is increasingly uncommon. There are many different interpretations and narrations of the current situation.	Taboo embodies the structure, moral judgments, and meaning of culture.	Hostility of the Socialist period greatly reduced knowledge. Threatened.

Means of Transmission of Intangible Heritage		Significance and Value of Intangible Heritage				
	Name of Intangible Heritage	People Embodying Intangible Heritage	Means of Transmitting Knowledge	Distribution (Area)	Coverage (People)	Current Usage and Future Tendency
10	Üvt gazruud, traditional sacred places.	Almost every individual in every soum will have particular connections to sacred places via their family, lineage, or soum affiliations.	Learned within family and kin relationships and as part of soum life.	In all four soums.	Everyone.	Some sacred places are still used frequently, and others are nearly forgotten. In general, the belief in and use of sacred places have survived remarkably well.
						Important to everyone (but suspected to be less relevant to younger generations), except incomers from distant parts of Mongolia? Not important to foreigners.
						Threatened directly by mining, infrastructure construction, and other consequential changes in land use.

Based on the Phase 1 work, four aspects of intangible heritage are considered to be both significant and significantly threatened:

1. Silversmithing and blacksmithing (though the crafts are flourishing, the transmittal of traditional metalsmithing is imperiled);
2. Songs and singers—the *urtyn duu*;
3. Key aspects of nomadic herding culture: the *ger*, games, foods, and taboos as well as traditional natural-resource use and traditional environmental knowledge; and
4. *Üvt gazruud*—the traditional sacred places.

As discussed above, the *Üvt gazruud* (traditional sacred places) are treated here, in the intangible heritage section, despite the fact that they are geographically specific places and, because of that, might be treated as tangible resources. However, unlike archaeological or paleontological sites, the importance of an *Üvt gazruud* is not intrinsic to the place but, rather, is ascribed to the place by particular social groups or communities. The social group or community to whom such a place is important may be located nearby or at some (occasionally, considerable) distance. In the latter case, there is a more significant “space” between the site and the “source” of its significance. This socio-religious significance is also mutable—it may wax and wane over time, and in some instances, the sacred quality is transferable to another geographic place.

The four intangible heritage resources identified above will be, through the CHP, considered in three stages: inventory, evaluation, and, finally, treatment. The three stages are not sequential; inventory and evaluation of resources will continue indefinitely, although it is anticipated that the vast majority of the work will be accomplished within the first 2 years. Treatment will be both specific and general. Treatment of a particular *Üvt gazruud* will take place as part of the compliance process (see Chapter 5), whereas other intangible resources will be treated irrespective of any development project, through public programs. Each stage is discussed below.

Stage 1 Inventory

The Phase 1 report (see Chapter 4 of that report) presents an inventory of the aspects of Ömnögovi aimag intangible heritage that have emerged as important to local communities. We consider that this is a complete inventory of the important topics, but the detailed consideration within each topic is almost certainly not complete. For example, we know that silversmithing is of great importance, but equally, we may be certain that there are more silversmiths and even more details of the techniques about which we know nothing.

An important component of the CHP public programs, therefore, will be an ongoing program of inventory for each of the four intangible heritages listed above. The methodology for making an inventory is via an ethnographic study, and we will return to this below, because it may be considered both a process and a product. The process of doing such a study is detailed below, and its role, value, and use as a product are discussed later.

Ethnographic Study

The process of undertaking an ethnographic study is well known in anthropology and is only briefly summarized here. Such a study must be conducted by a qualified anthropologist, and the appropriate qualifications and training for such individuals are presented in Chapter 6.

The standard techniques of meetings, interviews, and questionnaires are used, but the techniques and the detailed methodology will be tailored to the specific aspects of the intangible heritage being studied. For example, if the study topic is herding and grazing of the five main domestic animals (i.e., camel, sheep, goat, cattle, and horses), the methods will be chosen to observe and record every step of the associated cultural practices.

The usual sequence begins with community meetings at which *bag* and *soum* officials are present. From these meetings, the ethnographer identifies the individuals in the community or area that are considered to have specialized knowledge, to obtain the community’s approval for these individuals to share their knowl-

edge/expertise with the ethnographer. Subsequent meetings or interviews will then be arranged with individuals or small groups. Some topics are best discussed in semiprivate interviews—for example, discussions of a particular taboo or rituals that take place at a certain *ovoo*. Other topics, such as recording *urtyn duu* long songs or family names and history, may benefit either from an audience or from the presence of a range of elders, all of whose memories about past events may be needed to form a complete story.

The range and selection of techniques used in each meeting or interview must be carefully thought through to match the study topic, and the techniques must be self-reflective, to enable the researchers to monitor their progress and adapt their techniques if the results are not as desired.

The ethnographer will carefully record both the topic and the sources. The topic might be silversmithing, the products might be silver bowls, and the source—the smith with specialist knowledge—also merits a record. Note that people with specialist knowledge also have a geographic aspect, that they have homes or home ranges across which they move (if herders), but that their knowledge is unrelated to geography and their products may travel very widely across the landscape.

Meetings and interviews will be recorded by handwritten notes and photography; audiovisual recording will be widely used, because it allows the primary record to be reviewed and studied many times with great fidelity and integrity (unlike a researcher’s handwritten notes, which inevitably cannot contain everything said, sung, or done). Permission, written if possible, will be obtained for any technique used. Project-related materials generated by interviews will be permanently curated at the SGCHC repository. If desired, some or all of these materials will be archived at the appropriate soum culture center.

Evaluation of Significance and Effects

Phase 1 of the CHP has already evaluated both the significance of the various aspects of the intangible heritage and the effects of culture change upon the heritage (see Chapter 4 of the Phase 1 report). It is important to remember, however, that these are not “once and for all” judgments. The significance of intangible cultural heritage may change over time, in response to changes in other aspects of society in Ömnögovi aimag. Some aspects may, over time, become less important to local communities (and therefore may not merit mitigatory or compensatory actions), and other aspects may well assume greater importance as local communities’ experience changes, making these aspects more valuable as heritage. Periodic reviews of the significance of intangible cultural heritage resources and whether they are significantly affected by cultural change induced by mining or other economic development need to be conducted at intervals of no greater than every 2 years. These are not detailed studies but should be considered regular “health check-ups.”

Of immediate concern is gathering information about traditional natural-resource use, particularly as it relates to the availability and use of water. Mining operations have led some locals to conclude that environmental degradation is occurring and that mine operators and others encouraging economic development do not have a good grasp on traditional environmental knowledge. They feel that traditional practices to sustain the environment are being ignored. It is paramount, therefore, that ethnographic studies focus attention first on gathering and compiling information on traditional resource use and knowledge.

Above, we identified four aspects of intangible heritage—metalsmithing, songs and singers, nomadic culture, and traditional sacred places—that have been determined to be both culturally significant and negatively affected by mining-led culture change. We now present a series of activities that will either mitigate the negative effects or in some manner compensate for the loss or alteration of these intangible heritage resources.

Documentation: Ethnography and Ethnology

Before considering the intangible heritage management plans in detail, one further distinction should be made. We use the word “ethnography” to describe a process of gathering and analyzing data—in this case, information about the nature of the intangible cultural heritage of Ömnögovi aimag. This focused to a great extent on the project area and upon aspects of heritage directly or indirectly affected by the proposed mining project.

Ethnology is a comparative study of ethnographic data and interpretations, in effect looking not at the project area but, rather, across all of Ömnögovī and other nearby aimags and even across all of Mongolia. This second stage is necessary to provide researchers with a context within which to understand observations of heritage within the project area and identify which are localized phenomena amenable to direct mitigation and which are widespread phenomena of culture change requiring mitigation on a larger and longer scale.

Heritage management, as discussed next, is the pragmatic application of this knowledge in the form of cultural programs. Although inventory follows an ethnographic methodology, it is important to point out that the objective of cultural heritage studies is not to “study” people but to provide local communities with information they can use to make decisions about what aspects of culture to protect and how to protect it. Comparative ethnographic data will be collected that can assist in ethnological studies, but the collection and interpretation of these data are not the central focus of an inventory. On the contrary, the objective of an intangible heritage inventory is to enable the next part of the CHP to be developed—activities sponsored or promoted by OT and other mining companies that will provide local communities with a greater sense of their past and their unique cultural heritage, an awareness of how it is changing, and the ability to maintain some traditional skills, knowledge, and practices as part of a self-aware present to build a future community that is linked to a distant past.

Sufficient ethnography has now been done in the project area to prepare an inventory of intangible heritage and to perform an evaluation of significance and effect. The ethnology of the area is much less advanced, and comparatively more will be needed in the coming years. Both are necessary to keep the heritage-management activities focused toward achieving the objective of enabling the local communities to exert greater influence over the rate and speed of culture change.

Future documentation will guide studies of the cultures of the Gobi. Where possible (i.e., *Üvt gazruud* and the bearers of cultural heritage knowledge), it will be maintained in a GIS database (effectively a continuation of the GIS information developed in Phase 1). This information will be used as the basis for the education programs discussed below and for the intangible programs discussed next. When these ethnographic studies are then synthesized with studies elsewhere, the results will contribute greatly to knowledge of nomadic cultures generally.

Documentation/Inventory of *Üvt gazruud*

Phase 1 of the CHP has made a start in creating an inventory of the *Üvt gazruud* traditional sacred sites. It is certain that this is not a complete inventory and that, consequently, work on the inventory will continue, particularly in those areas slated for development. Such an inventory will require an ethnographic team to

1. Meet with local communities, asking in each meeting about the *Üvt gazruud* that “belongs” to individuals, families, and/or communities;
2. Ask about individuals who have special knowledge about *Üvt gazruud*, meet them, and ask them to share their knowledge;
3. Collect information in a consistent manner (this step will be facilitated by a “site” form parallel to the one created for archaeological sites and paleontological localities); and
4. Develop a single consistent GIS database of the locations of the *Üvt gazruud* linked to a database of the social groups/communities/families that are linked to the *Üvt gazruud*.

Heritage Management: Mitigation/Compensation Activities

We will treat intangible heritage through four public programs: (1) oral history, (2) training and certification programs, (3) museum programs, and (4) festivals. Each is discussed below.

Oral-History Program

One of the mitigation/compensation measures intended to preserve traditional knowledge is an oral-history program to be based in the local soum culture centers. The oral-history program is directed at various forms of knowledge and practices that can loosely be identified as “Nomadic Herding Culture.” These elements are mostly forms of material culture, including (but perhaps not limited to) snuff bottles, wooden containers, felt carpets, *Dugluur* and *Toirog*, animal brands, *gers* and *ger* facilities, Buddhist and shamanistic deity images and ritual objects, *und* (milk tea with rice and meat) and *Tsulkhir* and *Bajuun* flour, and stone *gers* and other games, such as *shagai* (ankle-bone shooting). Additionally, oral history will cover social relationships, such as kinship, lineage names, and taboos of Gobi people. In short, the purpose of the oral-history program is to allow local residents of soums and *bags* to make a permanent record of their lives and, in so doing, contribute to the documentation of the lifeways of Ömnögovi aimag.

The oral-history program will consist of a dual effort. In a directed manner, SGCHC ethnographers will work with soum elders and officials to identify individuals who are particular bearers of traditional knowledge and practices. These individuals, once identified and added to the inventory above, will be invited to attend sessions at their local soum cultural centers. There, the ethnographers of the SGCHC will interview them and make audiovisual recordings of the interview meetings. These recordings will be saved and will remain accessible to other members of the community and local teachers in the soum culture centers on dedicated computers, and the same recordings will be saved at the SGCHC in Dalanzadgad.

This aspect of the oral-history project will proceed as follows:

1. The ethnographers will be provided with and trained in the use of digital audiovisual recording equipment.
2. Each soum culture center will be outfitted with a space suitable for interviews/meetings that has suitable sound-baffling materials to minimize echoes.
3. The individuals with special knowledge, identified in Phase 1 or during the ongoing ethnographic studies above, will be invited to attend; transportation (and possibly accommodation) may be necessary, as well as meals. For craftsmen or those whose areas of specialized knowledge involve physical objects/artifacts, these will be brought along to the interview.
4. The interview/meeting will be held and recorded. Some topics and individuals may require more than 1 day, and subsequent days will be arranged where necessary. Still digital photos will be taken to illustrate the process, especially of the objects discussed or used by the specialists.
5. Some interviews/meetings may not be appropriately held at a soum center. For example, interviews with people with specialized knowledge of herding and pasturage practices will be held out-of-doors, so that they (and later watchers) can see what is being described or talked about.
6. The recording of the interview will be transcribed. Original recordings and transcriptions, plus still photos, will be saved and stored on a dedicated computer to be acquired and installed for that purpose in each soum culture center. Where possible, soum culture center staff will be provided with training in the use of the computers.
7. The recordings, transcriptions, and photographs will be used by soum teachers in the heritage studies element of the Public Programs described later in this chapter.

A second prong of the oral-history program can be characterized as self-directed. As noted above, an effort will be made to train soum culture center personnel in the use of the audiovisual equipment that will be supplied to the soum from the SGCHC for particular events, such as the camel festival. As part of these events, the soum culture center will be “open” for anyone to come in and record their individual or family story (these sessions will be advertised as part of the general advertising for a festival and listed on the schedule of festival events). By design, these sessions will be much less formal than those performed with the aid of a professional ethnographer. The recordings will be archived at the soum center and at the SGCHC.

Training and Promotion of Intangible Heritage by Training New Practitioners

A second, closely allied measure to compensate for effects to significant intangible cultural heritage is a program that provides traditional experts with tools for transmitting their skills to others. These will be *soum-* or *bag-*level programs operated from the *soum* culture centers that allow traditional experts effectively to teach

- Silversmithing and blacksmithing;
- Songs, stories, poems and the *urtyn duu*;
- Nomadic material culture—*ger* equipment, games, dress, food, etc.

This program will follow a sequential set of steps:

1. The bearers of traditional knowledge, “craftspeople,” will be identified from the previous (Stage 1) ethnographic work. Additional experts will be identified during ethnographic interviews and meetings conducted as part of ongoing inventory efforts.
2. Experts will be trained in how best to teach their skills to apprentices in workshops sponsored by the SGCHC under the title “Training the Trainer.” The Training the Trainer program will entail finding and hiring teachers (trainers can be, for example, teachers who train students to be teachers at the university). These teachers will provide short courses in teaching techniques to these traditional-craft experts at the SGCHC in Dalanzadgad. The intention is to teach the expert craftspeople how to teach, not how to do silversmithing or long songs, for example.
3. The expert craftspeople and the trainers will develop curricula for each of the traditional heritages so that as the experts begin to teach interested laypeople, the experts will cover the same basic knowledge and skills, ensuring consistency across the *aimag* and comparability across the different intangible heritages.
4. Training venues will be secured and travel and accommodation arranged for traditional craftspeople and teachers.
5. Craftspeople that complete the basic training will be “certified” by the SGCHC. Certification provides the craftspeople confidence to share their special skills and enables more consistent registration of the specialist and his/her skills in the intangible heritage inventory.
6. The final step in the process will be the training of interested laypeople by the traditional experts. The training will have an evaluation component so that SGCHC staff can monitor the success of the program and make changes as needed.

Exhibitions and Displays about Intangible Heritage

Soum and *aimag* museums will prepare exhibits and public programs (lectures, movies, etc.) that inform local residents about intangible and tangible cultural heritage. This program is mentioned below in the discussion of museums (*soum* culture centers). The cross-reference simply demonstrates that the process of maintaining or revitalizing the intangible heritage requires overlapping actions to provide communities with the best chances of success.

The *soum* culture centers will be the principal venues for a range of cultural activities that will strengthen local traditional cultures, including

1. Activities and exhibitions of local traditional material culture and traditional craftsmen,
2. Cultural activities focused on traditional foods and cooking (*Und* and *Tsulkhir* and *Bajuun* flour),
3. Exhibitions and public meetings about traditional sacred places, the *Üvt gazruud*,
4. Concerts of traditional music and songs, and
5. Competitions with traditional games—stone *ger* building, *shagai* (ankle-bone shooting), etc.

The SGCHC will provide assistance to the soum culture centers and museums in the Direct and Indirect Impact Zones with display and exhibition materials. Additional equipment may be provided, such as digital cameras, Dictaphone voice recorders, video cameras, and computers and/or televisions for playback and for research and study purposes. Soum culture center and museum staff will be trained in all aspects of public programs through short training sessions held at the SGCHC in Dalanzadgad. These sessions will be taught by SGCHC staff and augmented as needed by experts from other institutions. Specific instruction in the creation, design, research, writing, illustration, and mounting of displays and exhibitions will come from personnel from the National Museum in Ulaanbaatar. National Museum staff will be provided time to research and assistance from the SGCHC staff and will then write the curricula to be used in training soum staff.

Festivals in Ömnögovi

One final form of the treatment for the effects on intangible heritage will be the support of traditional festivals, such as the camel festival and Naadam. These festivals were (and to a lesser extent still are) the times and places in which the traditional crafts were traded and purchased, the *urtyn duu* were sung, and competitions in *shagai* and archery took place. Consequently, nothing could be more natural or effective at maintaining the traditions than to ensure that soum- and aimag-level festivals continue to have competitions in traditional crafts and skills. The SGCHC will support the local soum culture centers in staging these competitions by sponsoring prizes for the top three winners in each sport or craft.

Education

We consider two aspects of education within the CHP. The first is education of children, undertaken within the school system, in order to better educate the children in Ömnögovi aimag about their heritage. This fundamental step will instill a sense of pride in local heritage and an interest in maintaining aspects of the culture that are important to the residents of the Gobi. The second aspect is education of adults, not in the form of “classroom learning” but in less formal and more activity-based learning forms. Adult education is an effective means of reminding or informing people about their heritage and its importance. Ultimately, such information will change attitudes and behavior toward heritage.

Curriculum Development

The integration of tangible and intangible cultural heritage topics into educational programs is a significant component of the public programs of the CHP. We see heritage education provided through the school system for children as a means of strengthening cultural heritage and educating the young about their heritage. Adult education, also considered below, is aimed at increasing adults’ awareness of their heritage and the role of the past in shaping the future.

The curriculum for secondary schools is set and approved at the national level by the Ministry of Education Culture and Science. Although it is not possible to adopt a curriculum particular to Ömnögovi aimag, we can integrate local cultural heritage into the classroom plans.

Modernization of Geography and History Curricula in Direct and Indirect Impact Zones to Include Cultural Heritage

It is possible to include local cultural heritage subjects in public education and class work. There is latitude within this subject for topics chosen by individual schools and teachers. Working with local schools and teachers in the Direct and Indirect Impact Zones, SGCHC staff will help prepare lessons covering

1. The natural and human history of the soum and Ömnögovi aimag, with fieldtrips to paleontological, archaeological, and historical sites;

2. Silversmithing and blacksmithing;
3. Songs and singers—the *urtyn duu*;
4. Key aspects of nomadic herding culture: oral history, the *ger*, games, foods, Buddhism and shamanism, and taboos; and
5. *Üvt gazruud*—the traditional sacred places.

Each of these topics will form the basis for a lesson; some will be covered in the course of a single school period, but most will be spread out over a period of a few days. These lessons will be used to supplement the national curricula.

Teacher Training in Cultural Heritage and the Preparation of Teacher Handbooks and Student Materials

Teachers who typically engage with heritage subjects are trained in history, geography, or, less commonly, music. Even if they are predisposed to teach heritage subjects, local teachers will need training and materials to teach these new lesson plans. The SGCHC, therefore, will develop and distribute a handbook or manual for teachers within the Direct and Indirect Impact Zones to use when presenting cultural heritage materials to classes. The handbook will be structured with chapters that cover each topic (see above) and subsections. Each chapter will contain explanatory text to provide teachers with adequate background information, references for further information, audiovisual aids ranging from handouts to DVDs, and suggested lesson plans, workbooks, sample essays, etc. These teacher handbooks will be written by staff in the teacher-training departments at the National University in Ulaanbataar with technical assistance from the SGCHC and local teachers.

It will not be possible to provide training to every teacher at every school in the Direct and Indirect Impact Zones. Instead, each soum will select one or more teachers to receive specialized training in teaching cultural heritage. These teachers will then be required to train their fellow teachers in their own schools, so that all teachers gain a basic awareness of heritage (tangible and intangible) subjects. Training will be provided by the National University in Ulaanbataar, with technical assistance provided by SGCHC staff.

Integration of Soum Culture Centers, Museums, and Schools

Schools, culture centers, and museums in the soums of the Direct and Indirect Impact Zones deliver cultural heritage education and information to residents of Ömnögovi aimag. These three institutions should present accurate and coherent cultural heritage information that has a consistent and mutually reinforcing message about the importance of maintaining traditions and traditional places. In addition to primary education, the museums and culture centers have roles in adult education; these roles are explored elsewhere in this chapter.

Soum schools, culture centers, and museums need to coordinate to ensure that subjects and materials, as well as teaching methods, transmit similar information in nonredundant ways across the three venues. The teaching of songs, music, dance, history, and geography at any (and all) of the three facilities will be based on the same information and make use of the same teaching materials, so that subjects covered in schools for the children about their heritage are matched and coordinated with the adult-focused activities for use in soum culture centers and soum museums to teach and promote cultural heritage to adults. To achieve this end, the soum culture center director, the soum museum officer, and the teacher in charge of cultural heritage at the soum school will all meet at least twice per year to share resources. These meetings will be coordinated and attended by staff of the SGCHC.

Museums

Museums hold a critical place in the transmittal of scientific information to the public. They first transform information from a scientific and high-technical language to one that allows the same information to be

understood by the public through a variety of media. Ömnögovi aimag is fortunate in that the province has a strong museum infrastructure. Museums already exist at the aimag and soum levels. These museums, however, are in need of repair and update. We discuss these issues under three headings below: Bricks and Mortar, Exhibits, and Training.

Bricks and Mortar—Physical Facility and Equipment

South Gobi Museum

The preliminary design for a new South Gobi aimag museum in Dalanzadgad has been completed and approved. Progress toward construction, however, has been stalled because of a lack of adequate funding. It is important that the results arising from the activities of companies undertaking mining exploration and extraction be displayed and curated in Ömnögovi aimag. Without an adequate facility, we cannot reach this goal.

The SGCHC also needs facilities and equipment. Although the museum was designed before the concept of the SGCHC was conceived, the building is large enough, and the design can be modified to accommodate the SGCHC. The functions of displaying heritage items that can excite the public, with the supporting services of object conservation and curation/storage facilities, are already accounted for in the existing design. Thus, we only need to review the internal space of the museum as designed to incorporate the SGCHC. For the most part, the SGCHC will need office/working space, computer capabilities and infrastructure, and laboratory space.

The internal, detailed design of the SGCHC within the South Gobi Museum will be completed in consultation with staff from the National Museum in Ulaanbataar. The design will include outfitting the proposed museum with suitable curation facilities, display halls, and cabinets with atmospheric controls, lighting, etc. Displays will be aimed at educating both Mongolian and foreign visitors.

It needs to be pointed out that if the South Gobi Museum is not built, the SGCHC will still need facilities and equipment. In this case, the SGCHC will need to identify suitable space to rent in Dalanzadgad and modify it as appropriate.

Soum Museums

Soum museums play a significant role in the display and celebration of local cultural heritage for the benefit of local residents. The soum museums are considered to be the primary facilities for curating and presenting aspects of local cultural heritage; material items requiring specialist conservation and curation will be sent to the South Gobi Museum, the National Museum of History, or the specialized facilities of the Institutes of the MAS for curation and display. The soum museums currently lack adequate space, and the staff lacks appropriate training. During the implantation of the CHP in the Direct and Indirect Impact Zone soums, a program of stepwise improvement to the physical structures, exhibit cases, and contents will take place.

Each soum museum will be assessed first for structural deficiencies; all must be weatherproof. The existing displays will be reviewed. A determination will be made as to the displays considered most important to the local community and whether they should be renewed or completely reinstalled.

Each soum museum will focus on the aspects of local heritage that are locally considered important. Soums will not replicate each other, although they will conform to the same standards. Displays will consider both tangible and intangible cultural resources.

Soum Culture Centers

Soum culture centers play a very important role in the implementation of cultural policies by providing, hosting, and leading cultural activities (described in more detail in the section on Intangible Heritage) designed to protect and conserve intangible cultural heritage. To meet this charge, soum culture staff must understand their roles and responsibilities and must have sufficient technical knowledge. Soum culture center staff will also need training in basic principles of adult education and will be sent on short training courses (described below). Training will be provided at the National University in Ulaanbataar, with technical assistance from the SGCHC.

Exhibit Update and Maintenance

Creating museum or cultural center exhibitions is the first step in an ongoing process. The SGCHC and local soum museum officers will include provision for ongoing maintenance of buildings and facilities and the periodic (every 3–5 years) updating of exhibits and displays. A distinction will be made between permanent displays, which will need routine cleaning and refurbishment, and temporary displays on specific subjects, which will need complete renewal or replacement every 3–5 years.

Professional Training of the Museum and Culture Center Staff

Basic training for the officers/staff and soum culture centers and museums is as important as the provision of materials. The SGCHC will assist with providing basic training for soum museum and culture center staff, organized in cooperation with the provincial (aimag) Department of Education and Culture and the National Museum. Training topics include:

1. How to design and mount displays about
 - a. Material Culture
 - i. Silversmithing and blacksmithing;
 - ii. Heirlooms, other elements of material culture, snuff bottles passed down through many generations, the culture of animal brands, wooden containers, felt carpet making, and *Dugluur* and *Toirog*;
 - iii. Making and living in a Mongolian *ger*;
 - iv. Foods: *und* (milk tea with rice and meat) and *Tsulkhir* and *Bajuun* flours.
 - b. Society, Religion, and Language
 - i. Religions of Ömnögovi aimag;
 - ii. Ownership and laws;
 - iii. Revival of lineage names and kinship relations;
 - iv. Language;
 - v. Songs and singers, *urtyn duu* ballads and blessing poems, songs and feasts, instruments;
 - vi. Games, stone *ger* building and other games, *shagai* (ankle-bone shooting);
 - vii. Taboos of Ömnögovi people.
 - c. *Üvt gazruud*: Traditional Sacred Places in Ömnögovi aimag

For soum culture center staff, the topics will be the same as listed above, but the training will focus on how to design, develop, and hold adult-focused activities—exhibitions, concerts, seminars, etc. The officer responsible for the soum museum also will receive training in the above subjects, but in addition, he/she will be provided with basic training in the care, display, and presentation of heritage materials. The museum director will be taught to recognize materials that merit specialized care and study at the SGHC. These trainings are envisaged as short courses of a few days each covering such topics as basic conservation, principals of display, principles of presentation, building maintenance, and financial budget management. The training should be provided by the staff of the National Museum in conjunction with the SGCHC.

Heritage Tourism

Heritage tourism does not exist in a vacuum. Ideally, it should be embedded within a general tourism strategy for Ömnögovi aimag. Ömnögovi heritage can be key for developing a long-term, more general and sustainable tourism. To achieve a sustainable tourist sector, natural and cultural heritage needs to be integrated, with heritage-led tourism gradually enabling the development of more broadly based tourism.

Defining a Holistic Approach to Infrastructure Needs

At present, tourism in Ömnögovi aimag is almost entirely small-scale heritage tourism of the “adventure” type. The lack of paved roads, airports, and quality hotels results in only those tourists who have the time and inclination for travel by four-wheel drive vehicles and are willing to stay in *ger* camps while visiting the province. With very limited infrastructure and facilities, this low-impact type of tourism is probably sustainable but is not likely to grow. The situation is unlikely to change in the short term (i.e., during the 5-year implementation life of the CHP). We need, however, to prepare for what seem like inevitable changes that will occur in the medium and long terms. A holistic approach to infrastructure development needs to be developed. This approach will simultaneously consider the sites that will appeal to Mongolian and/or international visitors and the types and locations of infrastructure elements that will be needed to enable tourism to develop (infrastructure is here defined as roads and accommodation facilities), as well as the means for providing appropriate information to the defined target audiences (visitors).

Although tourism is unlikely to change significantly during the implementation of the CHP, the SGCHC is charged with working with other partners in the tourism industry to create a strategic plan for tourism in Ömnögovi aimag. The process for developing the plan contains the following elements: (1) identify sites that will appeal to either Mongolian or foreign visitors; (2) assess the vulnerabilities or strengths of the sites; (3) develop plans for site infrastructure, including vehicle parking, site displays, site management, and maintenance; (4) secure funding; and (5) implement the plan.

Integrating the LAC Framework for Tourism with SACC Framework for Cultural Heritage

Current “heritage/adventure” tourism offerings in Ömnögovi aimag are, by their nature, fairly low level and nonintensive. However, the inevitable changes that will occur over the medium term will bring the opportunity to develop tourism, with many potential benefits. The increase in tourism should not be allowed to occur if a consequence is the damage or degradation of the cultural heritage of Ömnögovi aimag, which is partly the basis for attracting visitors to the region.

The development of an LAC framework for tourism will be, in part, based upon the cultural heritage standards of acceptable culture change (see Chapter 7 of the Phase 1 report). Within the LAC, changes to tangible and intangible heritage will be considered, and short-, mid-, and long-term action plans will be developed for sites, properties, and intangible heritage. The implementation of the tourism plan will include management actions for these sites, with their known constraints and limitations, as well as a monitoring plan to ensure that the cultural heritage is not degraded.

Identification of Potential Heritage Tourist Attractions

Potential Heritage Tourist Sites and Cultural Events in the South Gobi

Ömnögovi aimag has a number of sites with potential as heritage tourist attractions. It also hosts a number of festivals, such as the camel festival and Naadam, that may attract tourists. The number and range of sites and festivals have never been fully determined. The first step, then, is for local culture centers and the aimag’s Department of Nature Environment and Tourism (with assistance from the SGCHC) to compile a register of heritage sites and cultural events within the aimag.

Heritage sites and events will be ranked based on their significance. It is noted that “significance” may mean many things to different people; in this task, “significance” is defined as consisting of at least three dimensions: intrinsic scientific significance, historic significance, and/or social significance. The vulnerability of each site and/or event to damage, especially damage to aspects of the site/event that make it significant, arising from tourist activities or natural degradation (caused by, for example, weather) will be noted. Sites/events that are less vulnerable (that is, are more robust) will be preferred for use as heritage tourist attractions.

Development of Protection and Maintenance Plans

The Department of Education and Culture will, with the technical assistance of the SGCHC, develop site/event management plans for each heritage tourist locale. Each site/event management plan will include:

1. An integrated description of the site and/or event;
2. A clear statement of why the site/event is important and why it is interesting;
3. Identification of the aspects of the site/event that most contribute to its significance;
4. Identification of whether the site/event is vulnerable to damage by visitors (or other factors) and identification and implementation of any measure that would prevent such damage. The best description of such plans and the processes for undertaking them have been published by ICOMOS Australia (see <http://australia.icomos.org/publications/charters/>). Reference will be made to international standards (see, for example, http://www.getty.edu/conservation/field_projects/china/china_publications.html);
5. Identification and design of infrastructural needs: car parking, visitor pathways, display/information panels, etc. All should be designed so that the significant elements of each site/event are not in any way damaged and access to and appreciation of significant elements is improved;
6. Implementation of the site/event plan, after funding is secured, without harm to the site’s and/or event’s significance. Routine maintenance is essential and will be secured as part of implementation.

The same principles will be applied to the creation of visitor plans for locations and the bearers/carriers of intangible heritage practices that will be of interest to visitors—for example, silversmithing.

Placement of Appropriate Sites on the World Heritage List

The Mongolian National Commission for UNESCO, with the Department of Nature Environment and Tourism, the Department of Education and Culture, and the technical assistance of the SGCHC, will identify possible sites or elements of intangible heritage to be nominated for inclusion on the list of World Heritage Sites or Lists of Endangered or Irreplaceable Intangible Heritage. The group will compile a tentative list with basic site descriptions and clear explanations of how each is considered to have outstanding universal value, not simply for Mongolia but for the whole world. The group will then work together to place these sites, or some subset, on the tentative lists for Mongolia. Finally, they will create the dossier for the nomination. At the moment, one World Heritage Site nomination is in the process of being prepared for the South Gobi. The nomination is for paleontological sites, including Bayanzag, Khermen tsav, Yolyn Am, and Khongoryn Els.

The Compliance Process

The purpose of this chapter is to provide a step-by-step overview of cultural heritage compliance in Ömnögovi aimag. In the following presentation, we have made two basic assumptions.

1. Cultural heritage specialists are employed in all appropriate levels of the government.
2. These specialists have the authority to act on behalf of their agencies.

The discussion begins with an idealized structure that meets international standards (Figure 5.1). This structure represents a mature system, which is our ultimate goal. We have contrasted this system with the situation as it currently exists at each step of the process. We realize that as we build toward the “ideal” compliance structure, we will need an interim solution that recognizes the rapid pace of economic development in Ömnögovi aimag and the lack of cultural heritage infrastructure in Mongolia. The concluding section of the chapter, therefore, presents our interim solution to cultural heritage compliance.

Step 1. Initiation of a Cultural Heritage Project

Whenever a project sponsor recognizes that a potential project will disturb the ground surface, they need to ask the DCA how to comply with the MLCH. Project sponsors are not only mining companies but any government agency, NGO, municipality or other local or regional government, private company, or landowner. Common ground-disturbing activities include, but are not limited to,

- Roads
- Pipelines
- Mining pits and infrastructure (including access roads, staging areas, borrow pits, etc.)
- Transmission lines
- Fences
- Construction sites (e.g., for a building or commercial center)

The project sponsor needs to write a “letter of intent” to the DCA that contains the following elements:

- Name of the sponsor
- Name of the project
- Nature of the project and types of anticipated disturbances
- Legal description of the area that will be disturbed
- Scaled map of the project area showing the areas of disturbance
- Anticipated dates of disturbance

Compliance Process

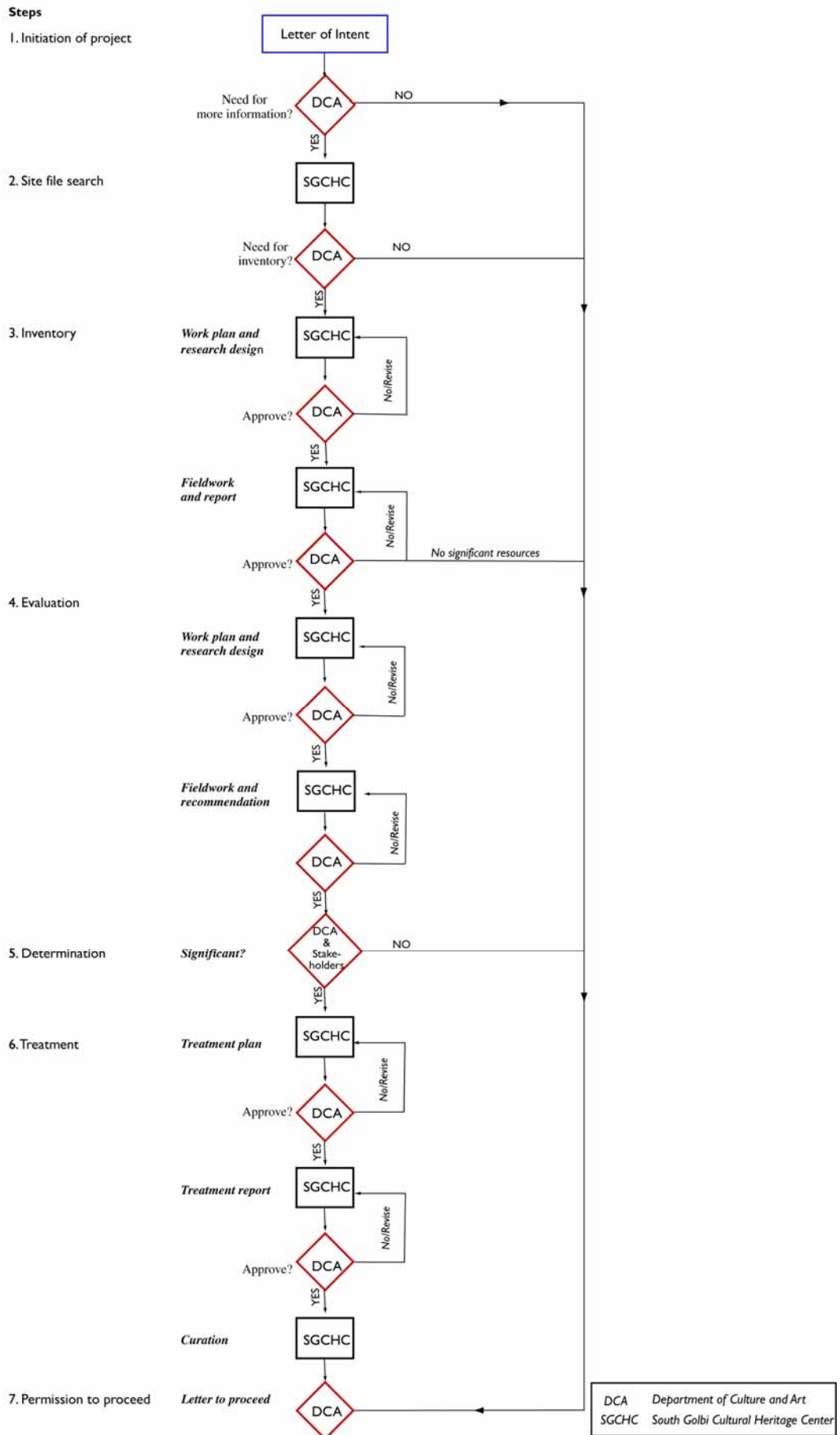


Figure 5.1. The compliance process.

Letters of intent need to be filed with the DCA together with the request for a permit for the proposed works—or, if no permit is needed, at least 14 days (all “days” in this chapter represent calendar days) in advance of proposed ground-disturbing activities.

The DCA will respond in writing to the project sponsor that either no additional work is needed prior to disturbance or that they must contact the SGCHC for a site file search. If no additional work is necessary, the DCA letter constitutes permission to proceed (Step 7). Such would be the case if previous cultural heritage studies had been conducted in the project area and had resulted in the adequate treatment of significant resources or if the project area was so disturbed that no intact cultural heritage resources could reasonably exist.

The Current Situation: Compliance with the MLCH is the responsibility of the project sponsor. Most project sponsors, however, are unaware of this responsibility and do not contact any government agency regarding the process. Some companies contact the MASIA or the Institute of Paleontology directly and request ad hoc services. Rarely do companies contact the MAS, Institute of History (MASIH), for an ethnographic survey (to our knowledge, OT is the only company that has requested such a survey).

Step 2. Site File Search

Upon receiving the DCA’s decision that a site file search is needed, the project sponsor will contact the SGCHC. The center will review the cultural heritage database of Ömnögovi aimag and determine whether cultural heritage resources have been recorded in or near the project area and whether the project area has been subjected to a cultural heritage inventory in the past. The database, which was created as part of the CHP design, will ultimately include separate GIS layers on archaeological, paleontological, historical, and ethnographic resources. The SGCHC also will review the predictive model of Ömnögovi aimag to determine whether the project area is likely to contain either surface or buried archaeological sites. The SGCHC will write a letter report to the DCA within 7 days of the request with its recommendation as to whether further research is needed to inventory and evaluate cultural heritage resources in the project area. The letter report will consist of the following elements:

- Name of the sponsor
- Name of the project
- Name and title of the person who prepared the report
- Nature of the project
- GIS map showing the project area and all cultural heritage resources and inventories within a 5-mile area
- GIS map showing the sensitivity areas of the predictive model that cover the project area and surrounding areas
- Description of the recorded resources
- Recommendation as to the necessity of a cultural heritage inventory

Upon receiving the SGCHC’s letter report, the DCA will notify the project sponsor within 5 days if further work is needed or if permission to proceed (Step 7) is granted.

The Current Situation: No comprehensive cultural heritage database exists for Ömnögovi aimag. Thus, no site files searches are performed.

Step 3. Inventory

The process of identifying heritage resources in a project area begins with a work plan and research design. Work plans will need to cover all types of tangible resources—archaeological, paleontological, historical, and ethnographic. In most cases, historical buildings will not be present. Historical resources, when present, will likely consist of ruins of monasteries and possible twentieth-century mining features. Both these types of resources are most appropriately treated as archaeological sites. Consequently, work plans will focus on archaeological, paleontological, and ethnographic resources. Work plans for each type of resource can be submitted independently or, if the work is coordinated, in one document. Regardless, work plans should contain the following elements:

- Title page indicating the name and location of the project, sponsoring agency or company, name of the institution preparing the work plan, and the authors
- Purpose of the project
- Legal authority
- Research design
 - Background information on the natural environment and culture history
 - Research themes and questions
 - Data requirements
- Work plan
 - Archaeology
 - Site definition
 - Survey method
 - Recording procedures
 - Paleontology
 - Site/locality definition
 - Survey method
 - Recording procedures
 - Ethnography
 - Interview methods
 - Site/locality recording
- Reporting requirements
- Curation
- Personnel
- Schedule
- Budget

The work plan will be submitted by the SGCHC to the DCA for approval. Within 14 days, the DCA will provide written comment. The DCA may request revisions, in which case the work plan will be revised by the SGCHC. Once approval has been received, the SGCHC will prepare for fieldwork.

Upon the completion of fieldwork, the SGCHC will prepare a report of the findings. Reports can be issued separately for each type of resource or as a coordinated report. All reports should lead to management recommendations for resources as not significant, significant with no further research needed to make an evaluation, or potentially significant but needing further research to offer a significance evaluation. Reports should consist of the following:

- Title page
- Abstract
- Acknowledgements
- Table of contents
- List of figures
- List of tables
- Background information
 - Project description
 - Legal authority (the laws, regulations, and conventions requiring the work)
- Summary of research design
- Methods
- Results (as appropriate for the type of cultural heritage resources)
 - Site descriptions
 - Analyses
- Interpretation and synthesis
- Management recommendations
- References
- Appendices

The SGCHC submits the inventory report to the DCA. If no resources were found or only resources that were not significant were found, then the SGCHC will recommend that no further cultural heritage work needs to be performed and that the project can move forward. The DCA will have 14 days to review the report. If the DCA approves, the agency will formally notify the sponsoring agency that the MLCH has been complied with and permission to proceed with the project is granted (Step 7).

If resources are found that the SGCHC recommends are significant or may be significant, the DCA will either approve the recommendations as submitted or request revisions. Once the report is approved by the DCA, the SGCHC will be requested to proceed with the evaluation of the resources.

The Current Situation: Most mining companies contract the MASIA directly for archaeological surveys and to coordinate paleontological surveys. The MASIA is responsible for determining what type of survey is needed and how much effort will be required. The MASIA makes recommendations and performs treatment without responsibility to another agency.

Step 4. Evaluation

The evaluation step is primarily used for archaeological and paleontological resources. Traditional and sacred sites are important because of value placed on the resources by individuals and communities; their sub-surface integrity is of little importance. As such, these resources are generally inventoried and evaluated at the same time.

Assessing the scientific importance of an archaeological or paleontological resource, however, requires that we have an accurate understanding of the context of the resource as well as its potential to yield additional information upon excavation. Evaluation focuses on the integrity of a resource (i.e., the degree to which deposits and features are intact and undisturbed) as well as the nature and composition of the resource. Evaluations generally require limited test excavations designed to demonstrate whether intact deposits and features exist, the type of archaeological or paleontological site/locality, the relative date and duration of the occupation, and an assessment of the uniqueness of the resource. Even sites recommended to be significant on the basis of surface observations alone need to undergo test excavations so that proper treatment of the resources can be devised.

As with inventory, the evaluation step begins with a work plan and research design. The work plan should consist of the following elements:

- Title page indicating the name and location of the project, the sponsoring agency or company, the name of the institution preparing the work plan, and the authors
- Purpose of the project
- Legal authority
- Research design
 - Background information on the natural environment and culture history
 - Research themes and questions
 - Data requirements
- Work plan
 - Archaeology
 - Test excavations
 - Field recording procedures
 - Laboratory analyses
 - Paleontology
 - Test excavations
 - Field recording procedures
 - Laboratory analyses
- Reporting requirements
- Curation
- Personnel
- Schedule
- Budget

The DCA will have 14 days to review the work plan and either approve it or request revisions. Once approved, the SGCHC will implement the work plan. Fieldwork and, if necessary, appropriate laboratory and specialized tests will be conducted. A report of the findings, along with recommendations of significance, will be prepared following the same outline as an inventory report (see above).

The Current Situation: Formal evaluation is not performed in Mongolia. Instead, inventory and evaluation are performed in one step by the MASIA, generally with no work plan prepared or approved. The MASIA acts as the government agency in charge of completing the work and also judging its adequacy.

Step 5. Determination of Significance

A critically important step in the compliance process is determining which resources are significant, the nature and extent of disturbance to significant resources, and what will be required of the project sponsor to mitigate or minimize the impacts to the resources. This step requires the input of all parties interested in the project and the particular set of resources. These parties include:

- DCA
- SGCHC
- The MAS (including one or more of the Institutes of Archaeology, Paleontology, and History)
- Project sponsor (e.g., OT)
- Public
 - AB
 - Professional scientific committees
 - NGOs
 - Aimag and soum governments, culture centers, and museums
 - Communities
 - Special interest groups (e.g., elders and herdsmen)
 - Traditional specialists
 - Families and individuals (particularly those associated with a traditional or sacred site)

It is the DCA's responsibility to identify the interested parties for any particular project. In this endeavor, the agency may be assisted by the project sponsor, who probably knows the parties interested in the project the best, and the MAS, whose scientists have been interacting with various local groups while performing technical studies.

All interested parties will be provided the documentation on cultural heritage collected to date. These reports should include site file checks, work plans, and inventory and evaluation reports. Parties will have 30 days to provide the DCA with comment. If all parties are in agreement that there are no significant resources in the project area, the DCA will write a letter to the project sponsor allowing the project to proceed (Step 7). If all parties are in agreement that one or more resources are significant, then the DCA will notify the project sponsor that a treatment plan is required that adequately mitigates the project's impact on the resource(s) and that the proponent is responsible for paying for the treatment. If the parties do not agree, then the DCA may request a formal meeting of all the interested parties or at least the parties that disagree. This meeting will take place at an agreed-upon location and may be telephonic or digital in nature. A field visit also may be requested by one or more parties.

Ideally, the outcome of the discussions will be unanimous agreement on the significance, or lack thereof, of the resources potentially affected by the project. If such agreement is not reached, the DCA will make a final determination and notify all the interested parties.

The Current Situation: No formal process exists to determine resource significance in Mongolia. The MASIA has sole discretion regarding the significance of archaeological sites and their treatment; the MAS, Institute of Paleontology, has similar authority for paleontological sites. No institution has jurisdiction over ethnographic resources.

Step 6. Treatment

The treatment of any particular significant site depends on the values by which it was determined to be worthy of protection. For resources valued for their scientific information, treatment usually involves some form of systematic investigation. Those resources valued for their spiritual or traditional association with an ethnic group, religion, community, or family can be treated in a variety of ways, including ceremonies, relocation of *ovoos*, compensation, educational programs, etc.

Generally, the preferred treatment option is to avoid significant sites by redesigning the Direct Impact Zone to exclude them. Avoidance, however, means more than simply “missing” a significant site; it also requires active management of the site. For example, a road may be redesigned around a site. Yet improvement or building of the road may provide looters and vandals with greater access to the site. Avoidance, then, needs to be accompanied by a management plan that includes fencing the site and patrolling it. Even if the road does not increase access to the site, it may increase drainage over features and increase erosion. The effects of natural processes, too, need to be considered when avoiding a site. Finally, it is important to point out that given our poor state of knowledge about the prehistory of Ömnögovi aimag, it may be the case that even if a site can be avoided, a portion of it should be systematically excavated and analyzed.

Upon receiving notification from the DCA that treatment is required, the project sponsor will need to contact the SGCHC and request their services. The sponsor and the center will need to agree to terms of reference for treatment. Because treatment can be time consuming and expensive, a detailed proposal from the SGCHC will most likely be required. Once the parties agree to move forward, the SGCHC will then prepare a treatment plan consisting of the following elements:

- Project description and legal authority
- Summary of identification and evaluation efforts
- Statement of significance
- Mitigation plan
 - Archaeological and paleontological sites
 - Field methods
 - Laboratory methods
 - Traditional and sacred sites
 - Ceremonies
 - Relocation of sacred qualities
 - Educational programs
 - Public programs
 - Compensation
 - Chance-find protocol
 - Construction monitoring
 - Emergency excavation
- Report and reporting schedule
- Curation
- Personnel
- Budget
- Schedule

As with other steps in the compliance process, treatment plans can be developed separately for different types of cultural heritage resources (i.e., archaeological, paleontological, historical, or ethnographic), or all resources can be integrated into one program.

The DCA will have 14 days to approve or request revisions to the treatment plan. Once approved, the SGCHC will implement the treatment. For archaeological or paleontological sites, a scientific report of the findings and interpretations will be prepared of the field and laboratory components of the treatment plan. Similarly, for ethnographic and historical sites, a report describing the treatment and its outcome will be prepared upon completion of the treatment. The schedule for report submission will be presented in the treatment plan, and in no case will the submission of the draft report exceed 2 years. Reports will contain the following elements:

- Title page
- Abstract
- Acknowledgements
- List of figures
- List of tables
- Introduction
 - Purpose of the project
 - Legal authority
 - Project history
 - Summary of findings
- Background information
 - Natural environment
 - Paleoenvironment
 - Culture sequence
- Research design
 - Research questions
 - Data requirements
- Methods
 - Field
 - Laboratory
 - Pre- or postfield construction monitoring
 - Public programs (e.g., public site tours)
- Site and feature description
- Analyses
- Interpretation and synthesis
- References
- Appendices

Draft reports will be distributed to all interested parties. Because the size and complexity of the reports will vary depending on the project, the time required for report review may vary; an adequate review period will need to be agreed upon by all parties as part of the treatment plan. The DCA will compile all comments

and return them to the SGCHC, which, in turn, will publish a final report in a compliance series under the auspices of the MAS.

The SGCHC will then curate all project related materials in an authorized repository. Materials curated include:

- Artifacts, labeled and boxed by provenience
- Samples, labeled and boxed by provenience
- Photographs, with associated photograph log
- Maps
- Field forms (feature forms, excavation forms, etc.)
- Field notes
- Provenience lists (bag lists, photo logs, sample lists, etc.)
- Analytical databases

Physical and digital collections should be linked. All digital files should include appropriate metadata.

To the extent possible, artifacts and materials will remain in Ömnögovi aimag. Materials that require special conservation or treatment will be transported to Ulaanbaatar and curated at the MASIA or the MAS, Institute of Paleontology. The cost of curation will be borne by the project sponsor.

The Current Situation: There are no formal rules governing the treatment of cultural heritage resources. Each institute at the MAS decides how to proceed and judges its own work in terms of adequacy.

Step 7. Permission to Proceed

The repository will notify the DCA that all collections have been curated. The DCA will then issue a letter permitting the project to proceed within 5 days.

The Current Situation: No formal permission is granted. A project sponsor is free to decide whether they have adequately complied with the law.

Interim Compliance Process

Currently, the SGCHC does not exist, and the DCA has no archaeologists on staff or any ability to perform the functions described above. The two institutional bodies that are required for cultural heritage compliance will not be functional in the near term. Yet land disturbance and resource development is proceeding unabated in Ömnögovi aimag. A short-term compliance solution must be found.

In developing an interim solution, we need to be mindful not to implement a process that will inhibit the development or operation of the proposed permanent compliance process. We need a structure that, while functional, does not create new elements that will be difficult to discard or impede the transfer of responsibilities to the proper government agency.

We propose to build on current compliance practices and, at the same time, begin the process of separating regulation of cultural heritage compliance from its implementation. We suggest that the MASIA be charged with the responsibilities proposed for the SGCHC, and an international cultural heritage specialist (IS) will stand in for the cultural heritage compliance officers at the DCA until the MLCH has been amended and the DCA is fully capable of fulfilling its role. Reviewing the compliance steps described above, we propose the following interim compliance process:

1. Initiation of project: project sponsors will notify the MASIA of their intention to perform an activity that will disturb the land and potentially affect cultural heritage resources.
2. The MASIA will conduct a site file check and, if necessary, prepare a budget and scope of work for inventory and evaluation. If paleontological or ethnographic resources are involved, then the appropriate MAS institutes or centers will prepare a budget and scope of work for their specialty. The overall project budget and scope of work will be reviewed by an IS. This step will be completed within 7 days.
3. Upon approval from the project sponsor, fieldwork will commence. Surveys will be completed first; the results, along with recommendations for test excavations, will be communicated to the IS by telephone, email, or site visit. The IS will approve the recommendations (modified, if necessary) and formally document the decision. Test excavations will follow immediately, with no break in fieldwork; the field crew will be adjusted as needed.
4. Test excavations will be designed to completely mitigate impacts to all but the largest and most complicated sites. As a result, after fieldwork, the MASIA will be able to issue a notice to proceed to the project sponsor on the condition that the project sponsor continue to fund the analysis, documentation, and curation of the project results.
5. For a small set of resources, treatment in the form of excavation, ceremonies, and/or public programs will be required. The MASIA will be responsible for developing a treatment plan within 30 days of completion of the inventory and evaluation fieldwork. The IS will review the treatment plan within 7 days, and fieldwork will commence upon approval of the project sponsor. Upon completion of fieldwork, the MASIA will issue a notice to proceed on the condition that the project sponsor fund the analysis, documentation, and curation of the project results.
6. The analysis and documentation phase will begin with a budget and scope of work reviewed by the IS and approved by the project sponsor. In no situation will the analysis and documentation phase take longer than 2 years to complete. Curation will take place once the IS has reviewed and approved the final reports.

We expect the transition from the interim to the permanent compliance structure will be phased. In the implementation plan (Chapter 7), we have estimated that it will take 2 years to establish and fully staff the SGCHC. At that point, we expect that all compliance functions will be transferred from the MASIA to the SGCHC. Likewise, we have allocated 2 years to amend the MLCH. The DCA will then need to fund one or more ISs, who will then need to be supported by the IS team to understand cultural heritage compliance and their role in the system.

Capacity Building

In the previous chapters, we presented the types of cultural heritage programs and how these programs will be implemented. These programs will only be successful if the individuals performing them have adequate training and experience in archaeology, anthropology, history, education, and/or museum studies. In this chapter, we identify the positions that need to be filled in order for the CHP to be successfully implemented. Next, we provide professional personnel standards and qualifications for the main cultural heritage disciplines that will be required: archaeology, paleontology, anthropology, and history. We then discuss the training of nonprofessionals. The section on personnel concludes with a brief statement regarding the need for professional training.

The SGHC and the MAS

The MAS

The MAS's main role in the CHP is to provide institutional support to the SGCHC. This responsibility will be discharged through a Board of Directors for the SGCHC composed primarily of MAS institute directors and/or their designees, along with similar support from the National Museum. In addition, the MASIA will be responsible for coordinating compliance activities until the SGCHC is functional. MAS positions are described below.

Chair, Board of the SGCHC: The chair will be responsible for convening and operating the SGCHC Board of Directors. The chair will ensure that each institute and the National Museum have a representative on the board. The president of the MAS will select the chair, who will report directly to the president of the MAS. The chair will be the liaison between the board and the executive director of the SGCHC.

Directors: The directors of the institutes of archaeology, paleontology, and history/language or their designees will serve as members of the SGCHC Board of Directors. The director of the National Museum or his/her designee also will serve as a member of the SGCHC Board of Directors. The board will oversee the cultural heritage operations and the financial management of the SGCHC.

Deputy Director, MASIA: Prior to the establishment of the SGCHC, the deputy director of the MASIA will be responsible for initiating the CHP implementation plan. He will be responsible for helping to assemble the SGCHC Board of Directors, working with members of Parliament on amending the MLCH, overseeing the compliance program, and establishing the CHP public programs. After the establishment of the SGCHC, the deputy director of the MASIA will review compliance reports from the SGCHC and submit them to the DCA, as well as provide support to the SGCHC as needed.

Director, Protection Unit, MASIA: Prior to the establishment of the SGCHC, the director of the protection unit at the MASIA will oversee the compliance program in Ömnögovi aimag. Duties will include not only supervising archaeological compliance but also coordinating paleontological and ethnographic compliance services. After the establishment of the SGCHC, the director of the protection unit of the MASIA will review compliance reports related to archaeology produced by the SGCHC and provide support as needed.

Support staff: The board will maintain sufficient staff to assist members with their duties. Staff will perform logistical arrangement, clerical duties, and other similar tasks as directed by the chairman.

The SGCHC

Executive Director: The executive director (ED) will be responsible for successfully implementing the CHP. He/she will be responsible for SGCHC operations and fiscal management. He/she will take direction from the SGCHC Board of Directors, assist in hiring and managing staff, be responsible for the physical facilities and infrastructure of the SGCHC, work with soum and aimag officials as well as other stakeholders to support cultural heritage in Ömnögovi aimag, convene meetings of the SGCHC AB and assist with their work, work with members of Parliament and government agencies to amend the MLCH, help set cultural heritage policy for Mongolia and Ömnögovi aimag, develop opportunities to increase funding for the SGCHC, and encourage domestic and foreign research in Ömnögovi aimag cultural heritage.

The ED should have an M.A. or a Ph.D. (preferred) in archaeology, paleontology, anthropology, or history. He/she should have 5 years of experience performing research in the Gobi and be familiar with Mongolian cultural heritage compliance and public programs. He/she needs to be able to work with diverse groups, including scientists, members of the mining and tourism industry, government officials, NGOs and international governmental organizations (IGOs), educators, and the public.

Director, Compliance Program: The director of the compliance program is responsible for ensuring that the mining companies that have paid their annual cultural heritage fees are in compliance with the MLCH. The director will oversee archaeologists, paleontologists, and ethnographers in the identification, evaluation, and treatment of tangible cultural resources. He/she will direct a staff of professional and technical specialists as well as obtain expert consultants, if needed, in the fields of archaeology, paleontology, anthropology, architectural history, conservation, and restoration.

The director of compliance programs should have an M.A. or a Ph.D. (preferred) in archaeology, paleontology, anthropology, or history. He/she should have 5 years of experience performing research in the Gobi and be familiar with Mongolian cultural heritage compliance.

Senior Archaeologist: The senior archaeologist will oversee archaeological activities at the SGCHC. Such activities include archaeological compliance, archaeological research, and archaeological public programs. He/she will be responsible for reports and documents, including work plans, research designs, field reports, professional papers, and articles for the public. The senior archaeologist should meet the requirements set forth below for the supervisory archaeologist but have 5 years of experience in Gobi Desert archaeology.

Senior Paleontologist: The senior paleontologist will oversee paleontological activities at the SGCHC. Such activities include paleontological compliance, paleontological research, and paleontological public programs. He/she will be responsible for reports and documents, including work plans, research designs, field reports, professional papers, and articles for the public. The senior paleontologist should meet the requirements set forth below for the supervisory paleontologist but have 5 years of experience in Gobi Desert paleontology.

Senior Ethnographer: The senior ethnographer will oversee ethnographic activities at the SGCHC. Such activities include sacred and traditional identification, identification of intangible heritage, and ethnographic research on Ömnögovi culture. He/she will be responsible for reports, including work plans, research designs, field reports, professional papers, and articles for the public. The senior ethnographer should meet the requirements set forth below for an anthropologist but have 5 years of experience in Gobi Desert culture.

Technical Assistants: At mines with sufficient land-disturbing activities, the SGCHC will place a staff member that is cross-trained in archaeology and paleontology. This person will attend planning meetings and interface with mine managers to assess cultural heritage needs. He/she should be able to do small inventories for archaeological and paleontological resources and, as necessary, direct small crews. If such resources are found, the senior SGCHC archaeologist and/or paleontologist will be called in to evaluate significance and

determine the proper course of action. As needed, technical assistants can serve as crew members or crew chiefs on larger projects.

Director, Public Programs: The director of public programs will work with soum and aimag culture centers, museums, and schools to implement the public programs identified in the CHP. Such programs include an oral-history program, training and promotion of traditional practices, museum exhibits and displays, traditional festivals, curriculum development, and teacher and museum training. The director should hold an M.A. in education, museum studies, public programs, or a related field. He/she should have 5 years of experience delivering public programs in Mongolia.

Curator, Repository: The curator will be responsible for the SGCHC repository. Duties will include collections management, artifact conservation, document restoration and archiving, and facilities management. The curator will interface with the National Museum on standards and operations. The curator will assist as needed with soum and aimag museums that are actively managing collections recovered during cultural heritage compliance studies. The director should hold an M.A. in museum studies or a related field and have 5 years of museum experience.

Technical Assistants: As needed, the SGCHC should add technical assistants to implement public programs and operate the repository. Ideally, these individuals would hold a B.A. in some field related to cultural heritage. However, these positions can be filled by local residents who are willing to receive specialized training.

Information Technology Manager: The information technology manager is charged with purchasing, installing, and maintaining the software and hardware required by the SGCHC. He/she needs to be proficient with communication devices (e.g., cell phones, smart phones, etc.), GPS units, storage devices, servers, etc.

GIS Analyst: The GIS analyst must be proficient in GIS technology. Ideally, this person would be cross-trained in database management. He/she will be responsible for choosing and upgrading software, creating visual displays and field maps, and maintaining databases for tangible and intangible resources.

Translators: The SGCHC will be in need of translation services, primarily from Mongolian to English and vice versa. Translators can be hired as needed in Ulaanbaatar or, if possible, Dalanzadgad.

Clerical Support: The ED and other staff members of the SGCHC will be in need of clerical support. These individuals can be hired locally as needed.

Personnel Standards and Qualifications

In addition to the staff members of the MAS and the SGCHC listed above, other institutions, such as the National University and private contractors, may be required to provide cultural heritage services. Such individuals must be qualified and meet the professional standards described below.

Archaeologists

Archaeologists performing cultural heritage studies need to meet professional academic requirements as well as have sufficient experience in research and compliance work. We have separated the discussion into two categories: supervisory archaeologists and archaeological technicians.

Supervisory Archaeologists: Archaeologists in charge of compliance studies must have a range of skills. They must be adequately trained to lead field efforts, oversee laboratory processing and analyses, assess specialized tests, evaluate resources, write reports, and engage the public. All compliance projects need to have an archaeologist in charge who meets the criteria below for a supervisory archaeologist. This individual is

responsible for all actions taken on a project and will be held accountable for any deficiencies. Following international standards, minimum requirements to be a supervisory archaeologist in Ömnögovi aimag are:

1. M.A. or Ph.D. degree in archaeology or anthropology (with an emphasis in archaeology);
2. Minimally, 1 year of experience in Mongolian archaeology (experience can be broken up over a number of years but must equal 12 months of full-time work);
3. Minimally, 4 months of supervised field and analytical experience in Gobi Desert archaeology;
4. Demonstrated ability to complete research (e.g., a thesis or doctoral dissertation); and
5. Demonstrated ability to perform compliance research (e.g., minimally, demonstrated employment as a crew chief and coauthor of a compliance report).

Archaeological Technicians: Archaeological fieldwork and laboratory processing are labor-intensive enterprises. Many of these tasks are carried out by individuals with specialized training in field and/or laboratory techniques but without advanced degrees. Because students often receive valuable training in fulfilling the roles and responsibilities of an archaeological technician, we have made allowances so that they can receive training and experience in compliance studies as part of their training. Typical tasks of archaeological technicians include

- Field crew
- Archaeological monitoring
- Artifact processing
- Sample preparation
- Collection preparation
- Curation
- Data entry

Minimal requirements for an archaeological technician are:

1. For full-time employment, a B.A. in archaeology or anthropology (with an emphasis in archaeology and including completion of a field school in Mongolia);
2. For project-specific employment, at least 2 years of university coursework, with at least one course in archaeological method and theory, one course in Mongolian archaeology, and an archaeological field school.

Registration of Professional Archaeologists

As compliance work intensifies in Mongolia, it will become increasingly more important for archaeological compliance studies to meet professional standards of research and for archaeologists engaged in these studies to be accountable for their professional conduct. Development-sponsored compliance studies face pressures that are generally not encountered in academic research. Project sponsors and government agencies want to ensure that work is performed efficiently, in terms of financial expenditures and timeliness of completion. Faster and cheaper, however, is not necessarily better. It will fall to the archaeological profession to ensure that these pressures do not result in a decrease in the quality of work. One mechanism to ensure quality is to hold the archaeologists who perform these studies accountable for requiring that practicing archaeologists be registered and to define a mechanism to hold these individuals accountable for their professional activities.

Currently, there are only about 30 Mongolians that meet the criteria to be supervising archaeologists. This number is not sufficient to warrant the development of an infrastructure to register and hold grievance proceedings. Fortunately, international archaeological organizations exist that Mongolia could use. Two such organizations are the Register of Professional Archaeologists (<http://www.rpanet.org>) and the Institute for

Archaeologists (<http://www.archaeologists.net>). As part of the implementation plan, we suggest that the working group on research standards investigate these organizations and, if feasible, formally ally the Mongolian professional community with one of them.

Paleontologists

Standards for paleontologists performing compliance studies are less well developed than their counterparts for archaeologists. In general, many government agencies in the United States and other countries with regulations covering paleontological resources use parallel personnel qualifications for paleontologists and archaeologists, divided between supervisory paleontologists and paleontological technicians.

Supervisory Paleontologist: Paleontologists in charge of compliance projects must hold advanced (e.g., post-baccalaureate) degrees and have sufficient practical experience in research and compliance studies. Specific criteria are:

1. M.A. or Ph.D. degree in vertebrate paleontology, paleozoology (with an emphasis in paleontology), or a related field;
2. Minimally, 1 year of direct experience in Mongolian paleontology (experience can be broken up over a number of years but must equal 12 months of full time work);
3. Minimally, 4 months of supervised field and analytical experience in Gobi Desert paleontology;
4. Demonstrated ability to complete research (e.g., a thesis or doctoral dissertation);
5. Demonstrated ability to perform compliance research (e.g., minimally, demonstrated employment as an assistant project director and coauthor of a compliance report).

Paleontological Technicians: Technical skills involved in paleontological compliance work include fieldwork, laboratory excavation, specimen conservation, data management, and curation. Some of these skills require extensive experience, patience, and practical knowledge of chemicals and laboratory procedures. As with archaeology, technicians can be full-time professionals or students gaining experience.

1. For full-time employment, a B.A. in vertebrate paleontology, paleozoology (with an emphasis in paleontology), or a related field and completion of a paleontological field school in Mongolia.
2. For project-specific employment, at least 2 years of university coursework, with at least one course in vertebrate paleontology, one course in evolutionary biology, and a paleontological field school.

Anthropologists

Few standards exist for anthropologists performing compliance studies. Often, academic institutions have internal committees to vet projects involving human subjects, but these are not specific to anthropology and certainly not specific to cultural heritage. Because of the short term nature of compliance studies, anthropologists engaged in this work must have substantial experience in the immediate project area. They must have connections with the local communities and government agencies as well as fluency in the language. It is critical that anthropologists be viewed as “honest brokers.” Their job is to provide decision makers with objective, independent information and recommendations. Anthropologists cannot be seen as advocates of either the project sponsor’s interest or the local community’s desire.

Unlike archaeology and paleontology, cultural heritage studies are suitable as training opportunities for anthropology students. Generally, ethnographic teams consist of only one or two anthropologists, all of whom need to be professionals. Standards for anthropologists working in Ömnögovı aimag are:

1. M.A. or Ph.D. degree in anthropology (with an emphasis in social or cultural anthropology);
2. Two years of experience in Mongolian anthropology or ethnic studies (experience can be broken up over a number of years but must equal 24 months of full-time work);

3. Six months of ethnographic research in the Gobi Desert;
4. Fluency in Mongolian and reading proficiency in Mongolian script and Tibetan;
5. Demonstrated ability to complete research (e.g., a thesis or doctoral dissertation).

A long-term goal is to include demonstrated ability to perform compliance research in the above list. However, because compliance studies are new to Mongolia, it is unrealistic to include such a requirement at this time.

Historians

Mongolian history is a well-developed field of study. The MASI, has been performing historical studies in the country since the 1930s. MASI researchers have studied all periods of Mongolian history at a national level, but regional studies, such as the history of Ömnögovi aimag, are much less well developed. Since independence, the number of nonprofessional historians has increased dramatically, and many of these individuals have focused on local histories. Professional historians have learned the importance of these local historians, particularly those with knowledge of oral history.

Historical expertise is needed in two areas of compliance. The first is to assess tangible property, such as ruined monasteries, historic buildings, and historic industrial ruins (e.g., mining facilities of the Soviet period). Historical research also will be used in selecting properties as potential heritage tourist sites and in placing these locations on regional lists of protected sites. The second aspect of cultural heritage studies in which historical studies are needed is in developing public programs, particularly those involving intangible heritage. For instance, the Phase 1 report identified metalsmithing as a significant intangible heritage of Ömnögovi aimag. As part of developing programs to protect metalsmithing, we will want to ensure that they are historically accurate. A second public program that will benefit from professional historians is the oral-history program. Although the program is open to all residents of Ömnögovi aimag, a professional historian will be required to monitor the program and to synthesize the oral histories into a book of value to the public and the profession.

The criteria for a professional historian performing compliance studies are:

1. M.A. or Ph.D. degree in history;
2. Three years of experience in Mongolian historical studies;
3. One year of historic research on the Gobi Desert region;
4. Fluency in Mongolian and reading proficiency in Mongolian script and Tibetan;
5. Demonstrated ability to complete research (e.g., a thesis or doctoral dissertation);
6. Demonstrated proficiency with oral history and oral-historical sources.

Cross-Training in Cultural Heritage Fields

It is often the case that a single compliance study requires more than one of the disciplines listed above. Ideally, professionals of each discipline will be secured to perform the studies. Such is not always possible, however. For example, a mine may require the installation of a few miles of new waterline. In such a case, it would probably not be feasible (or even warranted) to send four experts in archaeology, paleontology, anthropology, and history from the MAS in Ulaanbaatar (or even from Dalanzadgad, once the SGCHC is in operation) to the project area. Instead, it will make much more sense to cross-train one person who is an expert in one of these fields in the other fields, to make the initial field assessment. For example, an archaeologist with a modest amount of additional training in paleontology and anthropology could survey the waterline and identify archaeological and paleontological remains as well as discuss the project with local herders to determine whether any sacred or traditional sites might be impacted. If the area is clearly devoid of any resources, then the archaeologist could write a report that would be sufficient for compliance

purposes. If he/she has any doubt regarding paleontological or ethnographic material, then they need to call in an expert.

The purpose of cross-training is not to meet professional standards in all fields in one person but instead to have someone who can “triage” a situation and assess what knowledge is needed for a particular project. The position is less about being a “jack of all trades” than knowing what one does not know and being able to identify those experts who do know.

Nonprofessionals

The public programs in the CHP will largely be implemented by nonprofessionals with oversight from professionals at the MAS and/or the SGCHC. Most nonprofessionals involved in cultural heritage programs in Ömnögovi aimag will not have university degrees and will have no prior experience in the outreach tasks they have been assigned. These positions can be divided between local government (soum or aimag) positions and intangible heritage experts. Setting standards for such positions is problematic. The following “standards” are probably better viewed as guidelines that we hope will one day become standards.

Soum and aimag culture center and museum staff: Most soum and aimag culture center and museum positions are appointed by the soum governors or community/state officials. Many of the individuals in charge of soum museums and/or culture centers also have other responsibilities, such as clerical or administrative duties in the soum center. Most of these individuals have not been to the university; some have not finished high school. To perform their jobs as museum or culture center staff effectively, these individuals need a wide variety of basic skills in administration, facilities management, collections, exhibits, and public outreach. They also need specialized training in specific public programs associated with the CHP. Basic job requirements are:

1. B.A. in a cultural heritage field, such as anthropology, archaeology, history, or paleontology. A long-term goal of obtaining university-educated staff should be viewed as something to work toward but not a requirement.
2. Continuing professional education in cultural heritage. Soum and aimag staff with cultural heritage responsibilities should attend at least one training per year at the SGCHC. Trainings will consist of short courses (1–2 days) on such subjects as:
 - a. Museum administration
 - b. Exhibits
 - c. Collections management
 - d. Oral-history programs
 - e. Festivals and competitions
 - f. Traditional Gobi culture
 - g. Intangible heritage
 - h. Integrating schools with museums and culture centers

Traditional Experts: The transmittal of traditional knowledge from one generation to the next in the midst of massive economic development is a critical component of the CHP. Those who have traditional knowledge need to be encouraged to teach it, often in nontraditional ways. For example, silversmiths historically passed their knowledge from father to son (see Chapter 4 of the Phase 1 report). Today, however, with so many opportunities available to young people, this mode of transmission is not sufficient to guarantee the continued practice of this important cultural heritage. Instead, silversmiths need to take on nonfamily apprentices to ensure the survival of the craft.

Just as silversmithing is a craft that needs to be taught, teaching is a skill that generally must be learned. Not all silversmiths, singers, felt makers, or other traditional experts can successfully teach their craft,

regardless of how well they know it. The Training the Trainer program recognizes this dilemma and is designed to provide teaching skills in a nonthreatening, unintimidating manner.

The identification of traditional experts will be left to the community. Although ethnographers will help communities by interviewing officials and residents about who holds particular knowledge, their role will not be to evaluate or certify the skills of the identified experts but simply to create a consensual list. Once identified, traditional experts will be honored for their skills and knowledge and encouraged to transmit them. They will be invited, with compensation, to a Training the Trainer workshop at the SGCHC in Dalanzadgad, where they will receive information on best practices in teaching and work with trainers and other traditional experts in their fields to develop a “curriculum” for their specialty.

Traditional experts who attend the Training the Trainer workshop will receive a certificate and will be listed in the SGCHC register of certified traditional experts of Ömnögovi aimag. Certified experts will then be assisted by the SGCHC and soum culture centers in establishing training sessions in their home communities.

International Collaboration

Mongolia can benefit from the experience of other nations in building cultural heritage programs. The country also can take advantage of foreign institutions interested in Mongolian culture and scholarship. In this section, we discuss three areas of collaboration, moving from the specific to the general. We begin with international support for the CHP and the SGCHC. International specialists were part of the design of the CHP, and all have agreed to help with its implementation. Positions will need to be added to this team in areas of cultural heritage. Beyond cultural heritage expertise, the MIHT will provide an administrative and contractual bridge that will allow for the establishment of the SGCHC while the legislative process to amend the MLCH is ongoing. We present the MIHT structure to achieve a successful transition from an internationally supported to an independent and sustainable cultural heritage program run by Mongolian institutions and operated by Mongolian nationals. Next, we discuss academic training opportunities at institutions that have already indicated a desire to cooperate in the realm of graduate training in cultural heritage. Finally, we close the chapter with a discussion of the opportunities to collaborate with IGOs and other institutions with programs in cultural heritage.

International Expertise in Support of the CHP

As the CHP is implemented, many filling critical positions in the DCA, the MAS, and the SGCHC will need help in understanding their roles and responsibilities. The MIHT served this role during the CHP design and will continue to do so during the implementation phase, supplemented as needed by other specialists. Experts in the following specialties will be needed (those filled by MIHT members are indicated in parenthesis):

International Cultural Heritage Management (Altschul, Olsen, and Willems): Drs. Jeffrey Altschul and John Olsen will oversee the implementation of the CHP, providing support as needed primarily to the chair of the SGCHC board, the deputy director of the MASIA, and the executive director of the SGCHC. Dr. Willem Willems will continue to serve as a peer reviewer of the CHP implementation, providing an outside, objective expertise on the status and direction of the entire program.

Cultural Heritage Compliance (Ciolek-Torrello, Huber, and Homburg): Stationed in Ulaanbaatar on a rotational basis, Drs. Richard Ciolek-Torrello and Edgar Huber will share the responsibility of acting as the cultural heritage regulator prior to the establishment of the position within the DCA, as well as providing technical advice to the MASIA and the SGCHC. Dr. Jeffrey Homburg will assist as needed with regulation (i.e., serving in the role of regulator when he is in Mongolia and when Ciolek-Torrello and Huber are not in Ulaanbaatar) and provide technical advice to the MASIA and the SGCHC, particularly on the incorporation of geoarchaeology into archaeological compliance studies.

Intangible Heritage (Wait): Dr. Gerald Wait will assist in developing and advising the public programs of the SGCHC, with particular emphasis on intangible heritage. He will serve in the role of regulator for ethnographic compliance reports until such time as the DCA can fulfill this role. Also, in the absence of Drs. Ciolek-Torrello, Huber, and Homburg, Dr. Wait will serve in the role of cultural heritage regulator.

Museum Studies (Shen): Dr. Chen Shen will provide assistance for all museum-related services. He will work with the SGCHC staff on feasibility studies of soum and aimag museums and concepts for museum displays and exhibitions. He will assist in developing training programs for museum staff.

Heritage Tourism (du Cros): Dr. Hilary du Cros will assist the SGCHC with heritage tourism. She will review reports on potential tourist sites and provide advice on how best to incorporate heritage tourism in an aimag-wide tourism strategy.

Cultural Heritage Project Management (Douglas and Majewski): The MAS is organized to perform science as an academic enterprise. Cultural heritage compliance, however, requires that the MAS and the SGCHC be able to deliver cultural heritage services in a business environment. Project management is a key skill that must be acquired. Drs. Diane Douglas and Teresita Majewski will advise the MAS and the SGCHC in performing these functions.

Publication (Molina and Robbins): The MAS produces scientific reports but does not have substantial experience in producing high-quality compliance reports. Publications and graphic expertise will be provided to the production staff of the MAS by Maria Molina and Peg Robbins.

Paleontology: The performance of paleontology as a compliance service is new to Mongolia. We will add a paleontologist with experience in compliance and Mongolian paleontology to the team of international specialists who advise and support the paleontologists at the MAS and the SGCHC.

Cultural Heritage Education: A key position to be filled on the IS team is a cultural heritage public-education expert. This specialist will work with the SGCHC public programs director to implement all elements of the CHP public programs.

Community Involvement and Stakeholder Consultation: The SGCHC will need to acquire expertise in setting up and running public meetings. A consultant will be retained to facilitate this training.

Design and Construction: The construction of museums in soum centers may require a design and construction expert. As needed, we will fill this position.

Administrative and Contractual Support

Initially, OT will need to maintain and extend contract arrangements with the MIHT until such time that external funding sources are identified and proposed funding mechanisms are implemented. This period can be defined as the time between the completion of the CHP design and the establishment of a functional and fully funded SGCHC. During this transition, the existing MIHT administrative and functional structure will be maintained to ensure that the establishment and operation of the SGCHC adheres to the principles and objectives of the CHP. With MIHT support to the newly created SGCHC, time will be provided to OT and the MAS to establish other funding sources and to secure long-term-funding arrangements for the SGCHC that are in line with the CHP objectives. The length of time required for the transitional phase is unknown, although OT and the MAS will be in a better position to judge the viability of implementing the CHP, as well as how long it will take after the CHP workshop, which is the first element of the implantation plan (see Chapter 7). We have suggested that it will take about 2 years before the SGCHC will be fully functional.

Beyond funding and legislative changes, the transfer of administrative and technical functions of the CHP from the MIHT to the SGCHC depends upon the latter's acquiring the necessary human resources. In addition to cultural heritage expertise, the SGCHC needs to be able to account for revenues and expenses, to

manage projects successfully, and to facilitate public participation and stakeholder involvement. Capacity-transfer milestones shall be established based on functional capabilities, which may include formal financial incorporation, employment of administrative and technical staff, transfer of financial records, implementation of independent reporting, and establishment of audit and oversight functions. The progress of capacity transfer will be regularly reviewed every 6 months and reported to the SGCHC Board of Directors.

Academic Training

With little experience in cultural heritage, Mongolia must develop in-country skills in a variety of disciplines and services. Some of the skills needed can be provided through academic training in such fields as archaeology, paleontology, anthropology, history, and architecture. The National University provides baccalaureate and advanced (i.e., Master's or Doctorate) degrees in some of these fields. For trainings specific to cultural heritage, however, students must train abroad.

OT has established a scholarship program that provides for training abroad for Mongolian nationals. Currently, the program is restricted to baccalaureate and Master's degree seekers in fields of mining engineering, operations, science and technology, and environment and earth sciences. As part of the CHP design, OT was approached about expanding the program to include cultural heritage. This alteration is critical and is included in the CHP implementation plan (see Chapter 7).

Two universities with Master's programs in cultural heritage have indicated interest in training Mongolians as part of the CHP. The University of Arizona in the United States, which has an agreement with the Mongolian government to provide training to Mongolian students, has a program in applied archaeology leading to a Master's degree in anthropology. The University of Leiden in the Netherlands offers a program in heritage management that leads to a Master's degree in archaeology.

Opportunities for Collaboration in Cultural Heritage

There are existing programs in cultural heritage that could benefit the SGCHC specifically and Mongolian cultural heritage programs more generally. Mongolia should become more involved with UNESCO, which has a grant program designed specifically for developing countries that wish to develop cultural heritage programs. ICOMOS is another logical partner, particularly in regard to listing on the World Heritage List, the List of Intangible Cultural Heritage in Need of Urgent Safeguarding, or the Representative List of the Intangible Cultural Heritage of Humanity. Within ICOMOS, the International Committee on Archaeological Heritage Management is in the process of organizing a program to assist developing countries with cultural heritage management. Statistical Research, Inc.; Nexus Heritage; and Rio Tinto are all participating in this initiative. Members of the SGCHC should become members of relevant ICOMOS scientific committees.

A number of training programs exist in Europe and the United States that could be of benefit to Mongolians employed in various regulatory positions at the MAS, the SGCHC, and the DCA. The SRI Foundation and the University of Maryland teach a cultural resource management (CRM) course that provides a 1-week classroom introduction to CRM followed by a 6-week supervised internship at a government agency, a private-sector consulting firm, or a historic preservation NGO. The U.S. Department of the Interior National Park Service also has an intern program that could benefit Mongolians who have government responsibilities over cultural heritage but little training. Similar programs exist in the United Kingdom.

At a regional level, China, Korea, Japan, and Russia maintain active cultural heritage and scientific projects in Mongolia. One of the oldest, the Joint Mongolian-Russian-American Archaeological Expeditions, has been ongoing since 1995. Recently, Australia National University signed an agreement with the National University of Mongolia to undertake joint education and research projects in archaeology, anthropology, nutrition and ecology, and traditional Mongolian culture.

Several United States–Mongolia cultural heritage initiatives are ongoing. The Smithsonian Institution has examined the issue of “ninja miners” in the northern part of the country, whereas California State Parks has an ongoing collaborative effort with Mongolian National Parks that includes cultural resources. The American Center for Mongolian Studies is a focal point for many of these projects, and the SGCHC should maintain a close relationship with it.

Beyond cultural heritage, the SGCHC should become involved with several regional initiatives that affect cultural heritage in some manner. The development of a tourism plan for the Gobi requires input from the SGCHC on the viability of potential tourist destinations. Other initiatives include The Nature Conservancy's biodiversity-modeling efforts, particularly as these relate to herding activities. The Global Heritage Fund is another IGO that could assist the SGCHC. Finally, the SGCHC should become active in the South Gobi Regional Development Council.

Implementation Plan

In Chapters 3 and 4, we outlined the cultural heritage programs that need to be developed for Ömnögovi aimag. Currently, none of the programs exist. In this chapter, we offer a 5-year plan to move from the current situation to a fully operational CHP. We have divided the implementation plan into two sequential steps: Step 1. Years 1–2 and Step 2. Years 3–5.

In this chapter, we dissect the various requirements of the CHP and provide milestones for judging success. We begin with the principles that guide the assumptions that underlie the implementation plan. Next, we divide the CHP into five subprograms: public policy, public programs, compliance program, stakeholder and community involvement, and capacity building. For each step, we provide details of program components and milestones by which we can judge the speed and success of the implementation plan.

Principles

There are three principles upon which the CHP is based:

- ***We can balance protecting cultural heritage values and economic development.*** The CHP must allow economic development without destroying aspects of culture important to Mongolians. Finding this balance requires a compliance process that is transparent, objective, and fair and that empowers all parties interested in particular developments and/or cultural heritage resources to voice their concerns and interests.
- ***A comprehensive approach is the best way to manage cultural heritage resources.*** The cultural heritage of Ömnögovi aimag can be managed through coordinated and integrated programs that protect and conserve tangible and intangible resources. These programs are based on aimag-wide goals that are set by the government but monitored jointly with the public.
- ***To the extent possible, decisions about cultural heritage will be the prerogative of local communities.*** Cultural heritage management is a participatory process by which the concerns of all stakeholders are taken into account in decisions about heritage resources. Because mining interests often involve large financial issues of paramount concern to the national government and international corporations, these powerful interests often take precedence. To maintain a social license to extract resources, it is important to all concerned that decisions regarding heritage reflect local desires.

Assumptions

We have developed a CHP that adheres to the principles articulated above. The implementation plan is based on the following assumptions:

- There must be 100 percent compliance with the MLCH and international conventions pertaining to cultural heritage.

- The regulation of the MLCH must be separated from the implementation of the MLCH (i.e., those that perform cultural heritage studies cannot also determine whether those studies have been performed adequately).
- There must be secure funding for cultural heritage programs.

Implementation Plan and Milestones

In this section, we present a 5-year implementation plan divided into two steps. Each step is divided into subprograms with general milestones associated with each CHP action item. Table 7.1 summarizes the tasks and milestones and provides the positions accountable for the successful completion of each task.

Step 1. Years 1–2

The first step in the CHP is to begin the process of regulatory change while setting up the SGCHC to coordinate CHP activities. Program development will begin during this phase, but with the exception of the compliance program, most CHP programs will remain in the planning stages.

Public Policy

To implement the new regulatory framework, the following six prerequisites will be required: (1) acceptance of the CHP by all stakeholders; (2) parliamentary changes to the MLCH; (3) changes to the MAS charter so that the agency can develop the SGCHC; (4) creation of the SGCHC; (5) creation of personnel lines for cultural heritage specialists in the DCA, the MAS, and the SGCHC; and (6) agreement among mining companies and government agencies as to how to assess an annual cultural heritage permit fee. Each task is discussed below, along with proposed milestones (see Table 7.1).

CHP acceptance: The design of the CHP involved many, but not all, of the stakeholders interested in the cultural heritage of Ömnögovi aimag. To make the AB a workable group, we limited the number of members to 15 who, as a group, represented local, provincial, and central government agencies, industry, and NGOs involved in local cultural heritage. As a consequence, many of the mining companies, tourism companies, government ministries and agencies, members of Parliament, NGOs, and interested individuals and groups were not involved. As a first step, therefore, a 2-day CHP conference needs to be held in Ulaanbaatar to inform all those potentially interested or affected by the CHP about the proposed cultural heritage programs and necessary changes to the law and regulatory framework. The project sponsors will be the MAS and the provincial government of Ömnögovi aimag. The specific objectives of the conference are (1) to obtain general approval of the CHP and to agree to implement it, (2) to agree to amend the MLCH, (3) for mining companies to agree to fund the CHP through an annual cultural heritage fee, and (4) to agree to establish the SGCHC (Year 1).

Amendments to the MLCH: There is probably no more problematic aspect of the CHP than amendments to Mongolian law. Yet amendments are required to formalize the new regulatory framework and to ensure that sanctions are sufficient to force compliance with the MLCH by mining companies and other entities. There are at least four steps involved in securing the needed amendments to the MLCH.

1. *Building support.* Cultural heritage advocates, including NGOs, professional societies, traditionalists, and so forth, need to make the case that the law must be amended. There has to be a coordinated groundswell from Ömnögovi aimag in support of the proposed legal changes (Year 1).
2. *Getting industry and government onboard.* Advocates need to be joined by the mining industry in this effort. Large mining companies, like OT, that currently are trying to comply with the law need to impress upon legislators that the current situation penalizes them and is not in the long-term interest of

Table 7.1. Implementation Plan, by Program

Task	Action Item	Step 1 ^a		Step 2 ^a		Position(s) ^b Accountable ^b	IS Support ^c
		Year 1	Year 2	Year 3	Year 4		
CHP Acceptance Amendments to the MLCH	Public Policy						
	CHP conference	X				DD	JHA, JWO
	Building support	X				C, DD, ED	JHA, JWO
	Industry and government buy-in	X				C, DD, ED	JHA, JWO
	Finding a champion	X				C, DD, ED	JHA, JWO
	Follow through		X			C, DD, ED	JHA, JWO
	Monitoring public policy and cultural heritage programs	X	x	x	x	DD, ED	WW
MAS operation of SGCHC	Changes to MAS Charter	X				C, DD	JHA, JWO
Creation of SGCHC	Feasibility Study	X				DD	JHA, JWO
	Facilities	X				ED, DD	JHA, JWO
Personnel	Personnel—ED	X				C, DD	JHA, JWO
	Personnel—other SGCHC	x	X	x	x	ED	JHA, JWO
	Personnel—project site	x	X	x	x	ED	JHA, JWO
	Government agencies		X			DD	JHA, JWO
	Cultural heritage fee	X				C, DD	JHA, JWO
Advisory board	Stakeholder and Community Involvement						
	Secure funding	X				DD, ED	JHA
	Governance	X				DD, ED	JHA
	Committees and programs	X				DD, ED	JHA
	Standards of acceptable culture change	X	x	x	x	DD, ED	JHA
	Transfer operations from OT to SGCHC				X	DD, ED	JHA
	Board elections and new members				X	DD, ED	JHA
Risk analysis workshop					DD, ED	JHA	

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Task	Action Item	Step 1 ^a		Step 2 ^a		Position(s) Accountable ^b	IS Support ^c
		Year 1	Year 2	Year 3	Year 4		
Bricks and mortar	Public Programs						
	South Gobi museum—feasibility	X				DD	JHA, JWO, CS
	South Gobi museum—construction				X	ED, CR	JHA, JWO, CS, D&C
	Strategic plan for Ömnögovi aimag library and archive			X		ED, CR	JHA, JWO
	Soum museums and culture centers—assessment DIZ	X				ED, CR	JHA, JWO, CS
	Soum museums and culture centers—strategic plan DIZ	X				ED, CR	JHA, JWO, CS
	Soum museums and culture centers—strategic plan IIZ		X			ED, CR	JHA, JWO, CS
	Implementation of strategic plans in DIZ and IIZ		X			ED, CR	JHA, JWO, CS
	Soum museums and culture centers—schedule for strategic plan—all other		X			ED,CR	JHA, JWO, CS
	Soum museums and culture centers—strategic plan—all other				X	ED, CR	JHA, JWO, CS
Educational programs—primary	Oral history project—DIZ and IIZ	X	x	x	x	SE, DPP	GW
	Incorporate cultural heritage in geography and history curricula in DIZ and IIZ		X			DPP	GW, CHE
	Oral history project—aimag			X	x	SE, DPP	GW
	Incorporate cultural heritage in geography and history curricula in aimag			X	x	DPP	GW, CHE
	Competitions—DIZ and IIZ	X	x	x	x	DPP	GW
	Intangible heritage trainings—DIZ and IIZ	x	X	x	x	SE, DPP	GW
Educational programs—adult	Competitions—aimag			X	x	DPP	GW
	Intangible heritage trainings—aimag			X	x	SE, DPP	GW
	Strategic plan for tourism	X	x	x	x	ED, DPP	HC
Tourism	Identification of potential tourist sites—protected list	X	x	x	x	ED, DPP	JHA, JWO, HC

Task	Action Item	Step 1 ^a		Step 2 ^a			Position(s) Accountable ^b	IS Support ^c
		Year 1	Year 2	Year 3	Year 4	Year 5		
Archaeology and paleontology	Management plans for protecting endangered sites	X					ED, DPU	JHA, JWO, P
	Regional interpretive and management plans	x	X	x	x	x	ED, DPP	HC
	WHL—dossier for paleontological sites	X	x	x			SP	JWO, HC, P
	WHL—dossier for other possible WHL			X	x	x	DCP	JHA, JWO, HC
	Prepare WHL interpretive and management plans		X				DCP	JHA, JWO, HC
	Implement WHL interpretive and management plans			X	x	x	DCP	JHA, JWO, HC
	Compliance Program							
	Compliance program for DIZ and IIZ	X					DPU, DCP	RCT, EH, JAH
	Compliance section in MAS	X					DPU	RCT, EH, JAH
	Project management	X	x	x	x	x	DPU, DCP	DD, TM
Ethnography	Working group on standards		X	x	x	x	DD, DPU, DCC	RCT, EH, JAH
	GIS database		X				ITM, GA	RCT, EH, JAH
	Compliance studies	X	x	x	x	x	DPU, DCC, SA, SP	RCT, EH, JAH
	Publication series	X	x	x	x	x	DPU, DCC	MM, PR
	Training of mining personnel	X	x	x	x	x	DPU, DCC, SA, SP	RCT, EH, JAH
	Academic—research design		X	x	x	x	DD, DPU, ED, SA, SP	JHA, JWO
	Academic—clearinghouse		X	x	x	x	DD, DPU, ED, SA, SP	JHA, JWO
	Compliance program for DIZ and IIZ	X	x	x	x	x	DCC, SE	GW
	Compliance section in MAS	x	X				DCC, SE	GW
	Working group on standards	X	x	x	x	x	DCC, SE	GW
	GIS database		X			ITM, GA	GW, RCT, EH, JAH	
	Compliance studies	X	x	x	x	x	DCC, SE	GW

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Task	Action Item	Step 1 ^a		Step 2 ^a			Position(s) Accountable ^b	IS Support ^c
		Year 1	Year 2	Year 3	Year 4	Year 5		
Transfer from MAS to SGCHC	Traditional natural resource use and environmental knowledge	X					SE	GW
	Training of mining personnel	X	x	x	x	x	DCC, SE	GW
	Academic research—building support	X	x				ED, SE	JHA, JWO
	Transfer compliance functions			X			DD, DPU, DCC	JHA, JWO
	Transfer coordination of research functions			X			DD, ED	JHA, JWO
Capacity Building								
Professional training	Determining number of professionals needed	X					DD	JHA, JWO
	Hiring goals	X					DD	JHA, JWO
	Scholarship programs	X					DD	JWO
	Cultural heritage in bachelor's degree curricula		X				DD	JWO
	Masters' degrees in cultural heritage abroad	x	X				DD	JWO
Nonprofessional training	Training the trainer program in DIZ and IIZ	x	X		x	x	DPP	GW, CHE
	Soum culture center and museum personnel training in DIZ and IIZ	x	X		x	x	CR, DPP	GW, CHE
	Training the trainer program in aimag			X	x	x	DPP	GW, CHE
	Soum culture center and museum personnel training in aimag			X	x	x	CR, DPP	GW, CHE

Key: CHP = Cultural Heritage Program; DIZ = Direct Impact Zone; ED = Executive Director; GIS = Geographic Information System; IIZ = Indirect Impact Zone; IS = International Specialist; MAS = Mongolian Academy of Sciences; MLCH = Mongolian Law on Cultural Heritage; OT = Oyu Tolgoi, LLC; SGCHC = South Gobi Cultural Heritage Center; WHL = World Heritage List.

^aX = establishment of program; x = preparation for establishment or continuation of program.

^bPosition(s) Accountable: C = Chair, SGCHC Board of Directors; CR = Curator, Repository, SGCHC; DCP = Director, Compliance Program, SGCHC; DD = Deputy Director, MASIA; DPP = Director, Public Programs, SGCHC; DPU = Director, Protection Unit, MASIA; ED = Executive Director, SGCHC; GA = GIS Analyst, SGCHC; ITM = Information Technology Manager, SGCHC; SA = Senior Archaeologist, SGCHC; SE = Senior Ethnographer, SGCHC; SP = Senior Paleontologist, SGCHC.

^cInternational Specialists: CHE = Cultural Heritage Educational Specialist; CS = Chen Shen; D&C = Design and Construction Specialist; DD = Diane Douglas; EH = Edgar Huber; GW = Gerald Wait; HC = Hilary du Cros; JAH = Jeffrey Homburg; JHA = Jeffrey Altschul; JWO = John Olsen; MM = Maria Molina; P = Paleontologist; PR = Peg Robbins; RCT = Richard Ciolek-Torrello; TM = Teresita Majewski; WW = Willem Willems.

the country. Additionally, government agencies, particularly the MAS, need to be convinced that it is in their best interest to have the law changed. These agencies then need to be leading advocates for the proposed legal changes (Year 1).

3. *Finding a champion.* One or more members of parliament need to be found who will champion the amendments through the legislative process. These members and their staff will need assistance in writing the amendments and crafting arguments to support their position with other legislators (Year 1).
4. *Following through.* Advocates need to follow the amendments through the parliamentary process, including attending public meetings and mobilizing support to ensure that legislators are reminded by their constituents of the importance of cultural heritage and the proposed changes to the MLCH (Year 2).

Authority for the MAS to operate the SGCHC: The SGCHC currently does not exist and is not part of the responsibilities of the MAS. Prior to its creation, the MAS charter may have to be changed so that the MAS can operate the center. The MAS also will require funding to rent space, develop the facility and infrastructure for the center, and hire personnel. We suspect that such authority can be obtained within Year 1.

Creation of the SGCHC: Although legal changes to the MLCH are needed to authorize the SGCHC's role in cultural heritage compliance, we suggest that the mining companies in Ömnögovi aimag establish the SGCHC on their own initiative during the first year of CHP implementation. Currently, compliance with the MLCH is ad hoc and unenforced. Creation of the SGCHC by those companies that are complying would force others to join the effort, spread the cost of compliance equitably throughout the industry, and provide a coordinated and integrated approach to cultural heritage management, particularly in relation to public programs and intangible resources. The creation of the SGCHC can be subdivided into a series of elements; milestones for each element are shown below and in Table 7.1.

1. *Feasibility study.* Ultimately, the goal is to for the SGCHC to be a government cultural heritage center under the direction and control of the MAS. The objective of the feasibility study is to outline the steps toward achieving this goal. The feasibility study should focus on what form the SGCHC should take initially (e.g., NGO, department within the MAS, etc.); how it will transition to a permanent, government-run center; and how the cultural heritage fee assessment and application could be effectively structured to ensure the appropriate long-term, sustainable funding of the SGCHC. The study should also evaluate and recommend where the SGCHC will be established and housed (Ulaanbaatar, Dalanzadgad, Khanbodg, etc.), define the roles and responsibilities of the staff, and set forth a detailed 12-month implementation plan (Year 1).
2. *Facilities.* Sufficient space needs to be rented in Ulaanbaatar, Dalanzadgad, or Khanbodg to house the ED and support staff, including directors of public programs, the compliance section, and a curatorial repository. Infrastructure, such as telephones, high-speed internet, vehicles, field supplies, and so forth, also will need to be purchased (Year 1).
3. *Personnel.* Initially, the MAS will need to hire an ED for the SGCHC. In consultation with the ED, directors of public programs and compliance and the curator of the repository need to be hired. Additionally, the SGCHC will need support staff in the fields of information technology and office administration. Specialists in the fields of museum studies, education, archaeology, paleontology, history, and social anthropology will need to be added over time (Year 1 for the ED, Year 2 for others).
4. *Project personnel.* The SGCHC will provide mining companies anticipating constant or continual archaeological and/or paleontological compliance services with on-site expertise. We anticipate that one person who is cross-trained in archaeology and paleontology will be sufficient for day-to-day compliance services. Larger projects will require additional personnel sent on an ad hoc basis. The mining companies will provide SGCHC personnel with office space, vehicles, computers, communications, and other supplies and equipment as needed (Year 2).

Personnel: Personnel for the SGCHC have been discussed above. Cultural heritage specialists will be required in other government agencies. The DCA, in particular, will need cultural heritage specialists that can provide advice to all government agencies on public policy as well as perform regulatory reviews in a timely manner (Year 2).

Cultural heritage fee: The CHP depends on secure and adequate funding. The bulk of this funding will come from the mining industry in the form of an annual cultural heritage fee. During the first year of the implementation of the CHP, the mining industry, with the help of the MAS and international cultural heritage advisors, will need to determine (1) the total amount of financial support needed to operate the SGCHC, (2) a formula for assessing a cultural heritage fee, and (3) criteria for determining whether a mine needs to support on-site SGCHC compliance personnel (Year 1).

Stakeholder and Community Involvement

Cultural heritage management requires an engaged public. The purpose of cultural heritage is to provide a two-fold public benefit: first in the form of protecting those places and social conventions that are valued by various groups and second to enrich the lives of everyone by increasing our understanding of the past and the manner in which the past influences the present—and through the present, helps shape the future. To ensure that the CHP is progressing at the speed and in the direction necessary to provide public benefits to local communities, it is important that the CHP AB be transformed from a temporary to a permanent organization. In addition to the relatively small AB, we need to create a mechanism to reflect the interests of large-scale communities.

- Advisory board: The transformation of the AB to a permanent organization requires the following actions:
 - Secure funding. OT and other mining companies need to supply funds so that the AB can meet three times a year—once each in Dalanzadgad, Khanbogd, and Ulaanbaatar (Year 1).
 - Governance. The AB needs to develop bylaws and policies that identify the mission of the organization, officers and members and their responsibilities, elections, terms of service, compensation, etc. (Year 1).
 - Committees and Programs. The AB needs to define specific tasks for the organization and how these tasks will be accomplished. At a minimum, the AB should establish two committees:
 - A Public Policy committee should be charged with helping to enact amendments to the MLCH, establishing the compliance framework for cultural heritage, creating the SGCHC, and ensuring that mining companies comply with the MLCH (Year 1).
 - A Public Outreach committee should disseminate information of cultural heritage activities to residents of Ömnögovi aimag. The committee can meet this charge through a newsletter, working with soum culture centers, having “open days” during which residents could meet with AB members, etc. (Year 1).
- Standards of Acceptable Culture Change (SACC). During the CHP design, we began a SACC process. We need to continue the nine-step SACC process through the implementation period. Public meetings, arranged by either the AB or the SGCHC, should be held throughout the Direct and Indirect Impact Zones at least three times a year (Years 1–2).

Public Programs

For purposes of implementation, public programs can be divided into three components: bricks and mortar, education, and museums.

Bricks and mortar: Museums at the aimag and soum levels in Ömnögovi aimag are all in need of repair to the facilities, have collections in need of proper conservation, and require their exhibits to be updated. These needs can be further subdivided between the South Gobi Museum in Dalanzadgad and the soum museums and culture centers. The latter can be prioritized with the highest concern for the Direct Impact Zone (Khanbogd soum), a lesser but significant concern with the Indirect Impact Zone (Manlai and Bayaan-Ovoo soums), and the lowest priority given to the Cumulative Impact Zone (Tsogtsetaii soum and Dalanzadgad) and the rest of Ömnögovi aimag (see Figure 1 of the Phase 1 report).

- *South Gobi Museum.* There is currently a proposal to build a new South Gobi Museum in Dalanzadgad to replace the current museum, which is in disrepair (see Chapter 4 of the Phase 1 report). Funding for the new museum has not been secured, and the design of the museum currently does not include the SGCHC. During the first year of the CHP, the AB, the MAS, and the international advisors to the CHP need to assess the feasibility of building the new provincial museum and its adequacy for housing the SGCHC. If the proposal is feasible, then a development plan will need to be created to secure the necessary funding. If the proposal is not feasible, then plans will need to be developed to improve the existing facility and conserve its collections. These plans should include the aimag library, which currently houses rare and historically important books and documents (Year 1).
- *Soum museums and culture centers*
 - *Khanbogd Soum.* During the 9 months of the implementation plan, the SGCHC needs to assess the facilities, exhibits, and personnel of the museum and culture center of Khanbogd soum (Year 1). The SGCHC should prepare a strategic report during the last quarter of the first year that provides a plan for updating these facilities and hiring and training personnel (Year 1).
 - *Manlai and Bayan-Ovoo Soums.* By the middle of the second year, the SGCHC should prepare an assessment and strategic plan for upgrading the museums and culture centers in soums in the Indirect Impact Zone (Year 2).
 - *Implementation of the strategic plans for soums in the Direct and Indirect Impact Zones* should begin by the end of the second year (Year 2).
 - *Other soums in Ömnögovi aimag.* By the end of the second year, the SGCHC should have a schedule for developing strategic plans for the museums and culture centers for all other soums in Ömnögovi aimag (Year 2).

Educational programs: We have identified two types of educational programs for the CHP: those associated with primary, or school-age, education and those associated with adult education. All educational programs will be coordinated through the SGCHC, but they will be implemented by the soum culture centers.

- *Primary education:* We have identified four tasks to be implemented in the first 2 years of CHP implementation.
 - Review the civil-education curricula for Ömnögovi aimag (Year 1);
 - Incorporate cultural heritage in the geography and history curricula of soums in the Direct and Indirect Impact Zones (Khanbogd, Manlai, and Bayaan-Ovoo) (Year 2);
 - Create teacher and student materials on cultural heritage for Ömnögovi aimag (Year 2);
 - Integrate school, museum, and culture center programs for Khanbogd, Manlai, and Bayaan-Ovoo soums (Year 2).
- *Adult education:* Programs associated with oral history, competitions, and intangible resources will be created during the first 2 years of CHP implementation.
 - Create an oral-history program in Khanbogd, Manlai, and Bayaan-Ovoo soums that will be operated in conjunction with the soum culture centers (Year 1);
 - Establish soum-level competitions in Khanbogd, Manlai, and Bayaan-Ovoo soums in relation to the camel festival, Naadam, and possible other festivals (Year 1);
 - Establish *bag-* and soum-level training in intangible heritage in Khanbogd, Manlai, and Bayaan-Ovoo soums. Trainings should begin in Khanbogd in the first year, with the programs initiated in Manlai and Bayaan-Ovoo soums in the second year (Years 1–2).
 - The SGCHC will establish Train the Trainer programs to certify traditional experts and provide training in public outreach.

- Training programs to certify traditional experts will be conducted by SGCHC personnel at soum culture centers.
- The SGCHC will create a logistical support framework to advertise and support trainings.
- Training programs will be created in Khanbogd, Manlai, and Bayaan-Ovoo soums in intangible resources, including:
 - Metalsmithing
 - Songs and singing
 - Traditional foods
 - Nomadic culture—*ger*, games, animal brands, etc.
 - Material culture—snuff bottles, wooden containers, felt carpet making, *Dugluur* and *Toirog*, etc.
 - Taboos
 - Language and family names

Tourism: Heritage tourism must be embedded within a larger tourism plan for Ömnögovi aimag. Such a plan must include improvements to infrastructure, development of hotels and camping facilities, and development of tourist attractions and locations of interest. During the first 2 years of the CHP, tourism activities will focus on integrating heritage tourism within larger management plans for the aimag. Specifically, three programs will be established.

- *Comprehensive approach to tourism:* During the development of the CHP, a number of initiatives were established involving Ömnögovi aimag. During the first 2 years of the CHP, cultural heritage specialists from the DCA, the MAS, and the SGCHC will participate in the creation of a comprehensive approach and strategic plan for tourism in Ömnögovi aimag (Years 1–2).
- *Identification of potential tourist sites:* During the first 2 years, SGCHC personnel will work with tourism professionals to identify potential heritage tourism sites in the South Gobi.
 - Places of potential tourist appeal will be placed on the regional list of protected sites (Years 1–2).
 - Management plans stressing protection for sites that are currently being affected adversely by tourism in the Direct and Indirect Impact Zones, such as the dinosaur footprint sites, will be completed in the first year (Year 1).
 - Interpretive and management plans will be prepared for an initial set of sites (probably no more than one or two by the end of Year 2).
- *World Heritage List (WHL):* The SGCHC will identify candidates in the South Gobi that might be placed on the WHL.
 - The SGCHC will work with the Mongolian office of the ICOMOS to prepare a dossier for the nomination of paleontological sites in the South Gobi already on the tentative list to the WHL (Years 1–2).
 - The SGCHC will assist the ICOMOS in the preparation of management and interpretive plans for the WHL paleontological sites (Year 2).

Compliance Program

Currently, there is no formal compliance process in Ömnögovi aimag. Private companies are more or less self-policing. Those that comply with the MLCH do so by taking the initiative. They contact the MASIA directly and work with the institute to achieve an ad hoc result. Most companies, however, do not take the initiative and do not comply with the MLCH.

A major impetus behind the CHP was to create a compliance process, particularly for the mining industry, that would achieve 100 percent compliance with the MLCH in Ömnögovi aimag. A key component in designing a compliance program is recognizing the fundamental difference in treating tangible and intangible resources. Tangible resources—archaeological sites, paleontological localities, and sacred and traditional sites—by definition, are physical localities and thus resources that will be disturbed or destroyed by development and can be readily identified and treated. Intangible resources, in contrast, have no physical boundaries. There is no language barrier, for example, between OT and Talven Tolgoi. Thus, it would make little sense, and quite probably would be counterproductive or at least inefficient, for both mining operations to develop separate language programs. Intangible resources need to be treated comprehensively via public programs, as described in the previous section in the discussion of adult education.

Tangible resources need a different approach. We outline such a compliance process in Chapter 5. Central to our design is the SGCHC, which will provide local expertise for identifying, evaluating, and treating significant cultural heritage resources. Implementation of the compliance program requires accomplishing several tasks simultaneously. In the sections above, we have detailed changes required in the law and the MAS charter and the creation of the SGCHC and various public programs to treat intangible resources. Additionally, we need to establish procedures and develop research standards for compliance of tangible resources while compliance work increases at a dramatic pace.

In Years 1–2, we have defined specific and achievable goals for the compliance program (see Table 7.1). These are divided between archaeological/paleontological and ethnographic resources below.

Archaeological and paleontological resources: Archaeology and paleontology have long histories in Mongolia and are the best-developed scientific disciplines related to cultural heritage. The MASIA has been doing compliance work for the mining industry on an ad hoc basis for more than decade. Developing a formal compliance program for these resources can build on the initial procedures already in place. The following action items need to be completed in Years 1–2.

- Establish a formal compliance program for the Direct and Indirect Impact Zones (Khanbogd, Manlai, and Bayaan-Ovoo soums). This program will be operated by the SGCHC and follow the procedures outlined in Chapter 5 (Year 1).
- Create a compliance section within the MAS for archaeology, paleontology, and ethnography. This action may require changes in the MAS charter but, more fundamentally, will require some reorganization of the MAS institutes (Year 1).
- Establish project management infrastructure, including budgeting and scheduling tools, quality-assurance programs, and financial accounting. Once the infrastructure is in place, training will need to be provided to those responsible for compliance projects (tangible and intangible) (Years 1–5).
- Create a working group to set research standards and significance criteria for archaeological and paleontological resources. Currently, there is a professional council charged with ensuring that archaeological work is performed to professional standards. Unfortunately, the council does not work well. It is possible that it could be strengthened. Alternatively, a new compliance-focused entity could be created (Year 2); this group will continue through Step 2.
- Create a centralized database of archaeological and paleontological resources in Ömnögovi aimag. A GIS database for archaeological resources was started as part of the CHP. This effort should continue at the MASIA and ultimately be transferred to the SGCHC; paleontological resources should be added (Year 2).
- Perform compliance studies as needed. Mining development continues unabated in Ömnögovi aimag, and there is a continual need for archaeological and paleontological investigations. The MAS Institutes of Archaeology and Paleontology in Ulaanbaatar will need to continue to perform these studies until the SGCHC is operational. OT has hired an archaeologist to ensure that company activities are in compliance with the MLCH and the CHP. This individual, however, will not conduct surveys or other cultural heritage services that are governmental responsibilities and under the direction of the SGCHC. Other mining companies may have to follow OT's example to have on-site expertise (Years 1–5).

- Develop publication series for compliance studies. The compliance program will produce reports for each project. Those projects of limited interest can be published as technical reports. Those of greater interest to the profession should be of higher quality and disseminated through a technical series. Finally, projects that have great public interest should be reported through a commercially distributed series that meets the standards of the publishing industry (Years 1–2).
- Provide training in archaeology and paleontology. Although training will be discussed under capacity building, it is important to point out that training is required at all levels and must be integrated into the compliance program. Archaeologists and paleontologists will need to be trained, which is a long term effort. In addition, construction managers, workers, and other mining-industry employees need to have a sufficient understanding of their responsibilities in complying with the MLCH. The MASIA, and later the SGCHC, will need to provide periodic training and orientation sessions at the mine sites (Years 1–5).
- Archaeological and paleontological academic research. One of the principal reasons to perform compliance studies is to provide the public with a better understanding of the past. Compliance studies of tangible resources, by nature, tend to focus on a particular set of resources in a relatively small area. To achieve our ultimate goal of improving our knowledge of the past, we need to combine the results of these individual projects with academic studies aimed understanding research problems, as opposed to clearing areas, to create regional syntheses. A second, but by no means lesser, goal is to allow Mongolians to chart the direction of research in Ömnögovi aimag. For the most part, foreign institutions that provide the funding for academic projects have the most influence in defining research problems and setting the direction of archaeological and paleontological research. As part of the CHP, we want to shift this balance. By offering financial incentives to foreign institutions to work on a Mongolian-inspired research agenda, we can shape academic research and leverage Mongolian research funds with those from other countries. The process of changing academic research in Ömnögovi aimag will take time and will require the development of a research framework. The following steps in this direction will take place in Years 1–2.
 - Develop a research design for the archaeology, paleontology, history, and ethnography of Ömnögovi aimag. The research design should be a collaborative effort, involving as many Mongolian scholars as possible, that will set the direction of research. One of the outcomes of the research design will be a much more comprehensive set of research questions than was provided in the Phase 1 report. These questions can then serve as the basis for evaluating the scientific significance of tangible resources in compliance projects (Year 2).
 - Establish a clearinghouse on Ömnögovi aimag cultural heritage research. The clearinghouse will provide a means of linking foreign and national institutions in collaborative research efforts. Ultimately, it should be housed in the SGCHC; initially, it may have to be located at the MASIA (Year 2).

Traditional and sacred sites: Traditional and sacred sites straddle the divide between tangible and intangible resources. These sites are physical locations; they exist in a tangible form. Their cultural importance, however, arises from the values that people attach to them. These values are expressed in social relationships, songs, poems, and rituals that are created anew each time they are performed. Their existence takes no physical form; they are intangible.

For purposes of compliance, however, we have taken a pragmatic approach to these resources. Project sponsors, such as mining companies, need to know how to identify, evaluate, and treat these resources so that they proceed with their development. In Chapter 5, we include ethnographic investigations in the compliance process. Our purpose here is to establish a path to implement the proposed compliance process. Most of the tasks are similar to those described above for paleontological and archaeological resources. We have separated traditional and sacred sites from archaeological and paleontological resources because ethnographic studies, particularly those performed as parts of compliance studies, are not well established in Ömnögovi aimag. Consequently, we need to highlight and rigorously monitor the progress of ethnographic compliance. In Years 1–2, the following needs to be accomplished.

- Establish a formal compliance program for traditional and sacred sites in the Direct and Indirect Impact Zones (Khanbogd, Manlai, and Bayaan-Ovoo soums) (Year 1).

- Create a compliance section with the MASIH for ethnography. Although repeated from above, the compliance section for ethnography will require not only organizational and structural change within the MAS but also a fundamental culture change within the science of ethnography as practiced at the MASIH. Until now, all ethnography has been performed as a social science; humans have been treated as subjects of study. Cultural heritage is less about science and more about empowering local communities to identify and protect those resources and values that they hold dear. Experience from other countries suggests that the professional shift in attitude will take time and continual training and support from international cultural heritage experts (Years 1–2).
- Create a working group to set research standards and significance criteria for ethnographic resources. Because no such professional group exists in Mongolia, this task will likely be extremely difficult and take the entire 5-year implementation period. First, anthropologists will need to agree on research standards and significance criteria on a subject, cultural heritage, in which they have little training and almost no experience. To be successful, this effort needs to be collaborative and methodical and have ample support from ISs (Years 1–5).
- Create a centralized database of traditional and sacred sites for Ömnögovi aimag. To some extent, this database will be easier to create than the one for archaeological and paleontological resources, because no traditional and sacred sites were recorded prior to the CHP development. Consequently, there are few data, and they are all recorded in a similar manner. We suggest that all GIS-database efforts be centralized in the MASIA initially and then transferred to the SGCHC (Year 1). It is worth noting that although few elements of intangible heritage are capable of being mapped, the bearers of intangible knowledge—the silversmiths and the singers of *urtyn duu*, for example—can and should be mapped so that researchers will know where expertise in traditional knowledge is to be found.
- Perform compliance studies as needed. Because only one compliance-based ethnographic survey has been performed, it will be important that additional studies undergo thorough review to ensure that the proper standards are set. Such standards include field methods for mapping sacred and traditional sites, interview methods, the use of toponyms, etc. Until a working group is established in Mongolia, oversight should be performed by international cultural heritage experts (Years 1–2).
- Compile information on traditional natural-resource use and traditional environmental knowledge. The senior ethnographer of the SGCHC needs to compile information obtained on these topics during the Phase 1 baseline studies. As deemed deficiencies are noted, additional ethnographic research needs to be performed and reported (Year 1).
- Provide training in ethnography and cultural heritage. Training will be required for mine personnel as well as other project sponsors. Additionally, *soum*- and *bag*-level training in cultural heritage is needed to inform people of their roles in cultural heritage and their rights to protect sacred information (Years 1–5).
- Ethnographic academic research. Ömnögovi aimag has suffered from a lack of basic ethnographic research. The identification of intangible resources is incomplete, and much more needs to be known about the intangible resources identified in the Phase 1 report to develop adequate heritage programs. Leveraging Mongolian resources with foreign institutions in this effort is an important activity. Because these types of studies are new to Mongolia and probably to most foreign institutions, the first 2 years will be spent mobilizing support for these efforts at professional meetings and other venues as well as participating in the research design and clearinghouse initiatives presented above (Years 1–2).

Capacity Building

Mongolia needs more cultural heritage specialists. These specialists need to be trained in one or more disciplines related to cultural heritage, such as anthropology, archaeology, history, or ethnography, but also need some exposure to the practice of cultural heritage management, as opposed to purely academic research. Beyond professionals, a cadre of nonprofessionals needs to be trained to assist in the collection of information, the identification of resources, the transfer of heritage information, and the development of

intangible resources. We present these needs below, listing the implementation tasks first for professional training and then for nonprofessional training.

- *Professional training.* We have identified five specific tasks related to professional training that need to be implemented in Years 1–2.
 - Determine the number of professional cultural heritage specialists needed in Ömnögovi aimag (Year 1). Professionals will be needed in the DCA, the MAS, and other agencies in Ulaanbaatar. Some regulatory positions also will be required at the aimag level in Dalanzadgad and perhaps in the soums of the Direct and Indirect Impact Zones. For each position identified we need to create:
 - A job description, listing the roles and responsibilities, and
 - Hiring criteria, including required education and experience.
 - Set goals for the number of newly trained cultural heritage specialists in Mongolia (Year 1).
 - Expand OT and other mining-company scholarship programs to include cultural heritage (Year 1). Ideally, we could target a number of scholarships specifically for cultural heritage.
 - Work with the national universities to incorporate cultural heritage into allied-field Bachelor’s degree programs (Year 2).
 - Establish relationships with foreign institutions offering Master’s degrees in cultural heritage or allied fields (Years 1–2).
- *Nonprofessional training.* Nonprofessionals will play key roles in the implementation of the CHP. Traditional experts will be the individuals that transmit knowledge of intangible resources to the public and train the next generation of experts. Soun and aimag employees currently operate the soun culture centers and museums with little training. These positions need to be upgraded so that the individuals can attend training sessions and be more productive.
 - Establish a Training the Trainer program (Years 1–2). The program will be designed to certify traditional experts so that these individuals can train others residents of Ömnögovi aimag. Most training will take place in soun culture centers, competitions, festivals, and *bag* meetings. The Training the Trainer program will be operated from the SGCHC and will require the center to be operational before it can offer programs to certify trainers. While the SGCHC is being established, the Training the Trainer program can proceed under the MASIA’s authority to accomplish the following:
 - Hire a cultural heritage outreach expert to coordinate the program,
 - Determine the interest level of traditional experts in teaching others their skills and knowledge,
 - Determine the most appropriate ways and venues for training,
 - Determine the appropriate agency to offer certifications (e.g., should this be the SGCHC, the Ministry of Culture, Education, and Science, etc.),
 - Secure funding for the program and facilities in soums in the Direct and Indirect Impact Zones to hold the trainings,
 - Establish criteria for certification of traditional trainers as well as criteria for those who will “train the trainer,”
 - Identify both trainers and trainees,
 - Develop materials for training,
 - Develop places and schedules for training workshops, and
 - Develop a monitoring program to evaluate the effectiveness of trainings.

- Soum and aimag museum and culture centers (Years 1–2). Because soum culture centers and museums are fundamentally government offices, the SGCHC and the MAS need to work with the proper ministries and government agencies to be effective in making changes in the centers and museums. As with working with all bureaucracies, it will be important to clarify at the outset the roles and responsibilities of each party and not to overstep boundaries. Actions taken by the MASIA and, once established, the SGCHC in the first 2 years include:
 - Determine which government agency or agencies should take the lead in improving soum and aimag culture center and museum expertise;
 - Determine personnel requirements for soum museums and culture centers in the Direct and Indirect Impact Zones;
 - Establish educational and experience requirements for culture center and museum personnel and
 - Develop job descriptions defining each position's role and responsibility as well as lines of authority;
 - Establish a training program for museum and culture center personnel;
 - Identify training locations, develop training materials, and secure funding and
 - Develop a monitoring program to evaluate the effectiveness of training.

Step 2. Years 3–5

By the beginning of the second step of the implementation plan, the MLCH should have been amended or should be close to being amended, the SGCHC should be established and operational, public and compliance programs should have started (with all personnel and materials transferred from the MASIA in Ulaanbaatar to the SGCHC in Dalanzadgad), the AB should be operating as a permanent and independent organization, and capacity building and training programs should be well underway. Our main goal in Step 2 of the implementation plan is to solidify these nascent institutions and programs.

Public Policy

We have identified three aspects of public policy that will require attention during Step 2 of the implementation plan.

- MLCH and other regulations, laws, and conventions. There will need to be constant vigilance concerning proposed changes to the laws and regulations governing cultural heritage. Also, pressure will need to be exerted on government officials to have Mongolia become a state party to UNESCO conventions regarding the means of prohibiting and preventing illicit import, export, and transfer of ownership of cultural property (1970) and the UNIDROIT convention regarding stolen or illegally exported cultural objects (1995). These efforts should be led by the MAS, with help from the SGCHC, the DCA, the ICOMOS, and other NGOs and private institutions (Years 3–5).
- Cultural heritage framework. We hope that Mongolia will adopt the cultural heritage framework presented in the Phase 1 report and earlier in this chapter by the end of Step 1 of the implementation plan. However, if the framework has not been adopted or completely implemented, the MAS, the DCA, and the SGCHC, along with others, will need to complete this process (Year 3).
- Cultural heritage management and the mining industry. After the compliance framework has been operating for several years, it will be important for representatives of the mining industry and the cultural heritage field to evaluate its success. Changes, if any, can be made to the structure (Year 5).

Stakeholder and Community Involvement

Involving the community will require constant effort. One of the major issues addressed in the second phase of the implementation plan is ensuring that the AB represents community interests and not individual interests. As with all advisory boards, the AB needs to have a constant flow of new members joining the organization and old members leaving it.

Transfer operations of the AB from OT to the SGCHC: At some point, it will be important for the AB to be perceived not as a creation of OT but as an independent organization. The SGCHC can provide logistical support, and the funding for the AB can flow through the SGCHC (Year 4).

Orderly transition of AB membership: During Year 4, new members should be elected to the AB, with some of the older members leaving the AB at the end of their terms.

Perform second risk-analysis workshop: In Year 5, a second risk-analysis workshop should be held. The purpose of the workshop is to review threats to and opportunities for cultural heritage in Ömnögovi aimag and to provide the SGCHC with guidance for management actions.

Public Programs

During the second phase of the implementation plan, the SGCHC will continue those public programs begun in Years 1 and 2 and expand them geographically to encompass all of Ömnögovi aimag.

Bricks and mortar: Physical improvements to facilities will continue in Years 3–5. In particular, a decision needs to be made regarding the new South Gobi Museum and, depending on that decision, the facility that will permanently house the SGCHC.

- Construction of the South Gobi museum or permanent facility for the SGCHC (Year 4).
- Strategic plan for Ömnögovi aimag library and archive. Also, if a new South Gobi Museum is not constructed, we will need a maintenance plan for the existing facility as well as a strategic plan for improvements and upgrades to the exhibits and collections (Year 3).
- Completion of the implementation of the strategic plans for soum museums and culture centers in the Direct and Indirect Impact Zones (Year 3).
- Development of strategic plans for soum museums and culture centers in the Cumulative Impact Zone and the rest of Ömnögovi aimag (Years 4–5).

Primary education: Programs for school-age children should be operational at the end of Step 1. Step 2 will continue their implementation.

- Continue implementation of all school programs for soums in the Direct and Indirect Impact Zones (Years 3–5).
- Establish similar school programs in the Cumulative Impact Zone and the rest of Ömnögovi aimag (Years 3–5).
 - Incorporate Ömnögovi aimag cultural heritage in geography and history curricula.
 - Distribute teacher and student materials on Ömnögovi aimag cultural heritage.
 - Integrate school, museum, and culture centers in soums throughout Ömnögovi aimag.

Adult education: By the end of Step 1, adult-education programs will be operating in the Direct and Indirect Impact Zones. In Step 2, we will expand these programs throughout Ömnögovi aimag.

- Continue all adult-education programs in the Direct and Indirect Impact Zones (Years 3–5).

- Establish a similar set of programs in other soums throughout Ömnögovi aimag (Years 3–5).

Tourism: Heritage tourism will continue to lag in Ömnögovi aimag until significant investment in infrastructure is made. Until then, tourism will focus on adventure tourism and be limited in scope. This situation is probably of benefit to heritage tourism, which requires substantial investment in identifying possible tourist locations, primary research, and the development of interpretive plans. During Years 3–5, the following actions will be taken:

- Cultural heritage specialists at the MAS and the SGCHC will continue to be involved in the creation and implementation of an aimag-wide tourism strategy (Years 3–5).
- Heritage tourist sites in the Direct and Indirect Impact Zones will continue to be identified and placed on the regional list of protected sites. SGCHC staff will develop and implement interpretive and management plans for one to two heritage sites per year (Years 3–5).
- The SGCHC will work with the ICOMOS (Years 3–5) to
 - Place sites on the tentative list,
 - Finalize the listing for the South Gobi paleontological WHL, and
 - Begin work on the dossier for a WHL for one of the South Gobi sites placed on the tentative list in Step 1.

Compliance Programs

By the end of Year 2, the compliance program should be fully operational. In Step 2 of the implementation plan, the chief tasks will be to transfer all compliance functions from the MAS to the SGCHC.

Transfer all compliance functions from the MAS to the SGCHC: The transfer of functions should be complete by the end of Year 3.

- Complete implementation of a fully operational and staffed SGCHC that successfully meets the needs of the mining industry and government agencies.
- Transfer of all data management from the MAS to the SGCHC, including
 - Tangible and sacred site GIS data that integrate site locations with all digital information (e.g., digital site records, photographs, drawings, maps, site reports, etc.),
 - Hard copies and digital copies of all compliance and survey reports for Ömnögovi aimag, and
 - Hard copies and digital maps showing all survey areas.
- Establish and operate the SGCHC repository.

Transfer coordination of archaeological, paleontological, ethnographic, and historical research in Ömnögovi aimag to the SGCHC: Academic research in Ömnögovi aimag will still need to be permitted by the MAS institutes in Ulaanbaatar. Logistical coordination, however, should be transferred to the SGCHC (Year 3).

Capacity Building

Training adequate numbers of professional cultural heritage specialists will likely take at least a decade. Training nonprofessional cultural heritage experts and staff will almost assuredly be an ongoing process. During Step 2 of the implementation plan, all programs begun in Step 1 will be continued and expanded.

Training the Trainer: The number of intangible resources included in adult-education programs and the geographic range of these programs will expand in Years 3–5.

- Expand the Training the Trainer program to soums in the Cumulative Impact Zone and the rest of Ömnögovi aimag.
- Continue and expand programs on traditional crafts, arts, and cultural activities included in training opportunities.
- Continue and expand the certification program so that trainers reach all soums in Ömnögovi aimag.

Soum culture centers and museums: Soum personnel assigned to the museums and culture centers throughout Ömnögovi aimag need to be adequately trained in cultural heritage. These programs will continue and be expanded in Years 3–5.

- Continue and expand training opportunities for museum and culture center personnel from soums in the Cumulative Impact Zone and the rest of Ömnögovi aimag.
- Continue to develop new courses/workshops for different aspects of cultural heritage for soum personnel in all parts of Ömnögovi aimag.