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The World Monuments Fund and Training at Angkor/ University of Phnom Penh

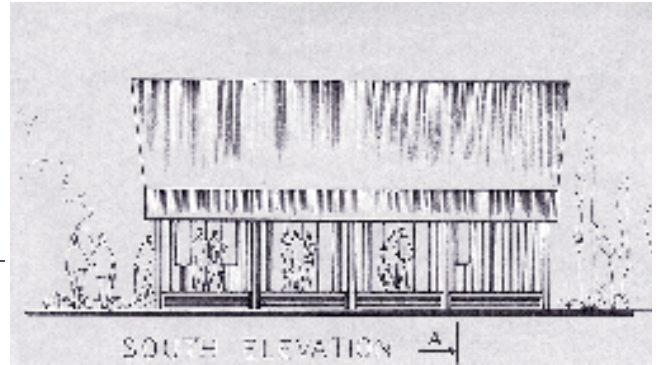
WMF Interpretive Center designed by graduate student Lek Sareth.

At the time of the World Monuments Fund's first mission to Cambodia in 1989 it

was noticed, with relief, that the Historic City of Angkor had not been extensively damaged by the country's recent civil war. Instead, what was recognized were two principal challenges: reconstructing the maintenance operations system for the vast site, and establishing training programs in historic preservation and cultural resource management.

Over the past six years the World Monuments Fund (WMF) has addressed these needs at its ongoing project, the conservation and presentation of Preah Khan, a 12th-century monastic complex at Angkor. The WMF has sponsored 11 major missions to Angkor, a vital component of each has been the training of students of architecture and archeology from the University of Fine Arts in Phnom Penh. This training has occurred both at the site of Angkor in the province of Siem Reap (100 miles to the north of Phnom Penh) and at the University of Phnom Penh.

The rich history of Angkor, especially the period comprising its heyday from the 9th through the 13th centuries, is rather well documented as a result of decades of French and Cambodian collaborative research. However, due to the hiatus in the 1970s caused by civil war, Angkor required a second "re-discovery." The country was inaccessible to outsiders during the war. The efforts of the Khmer Rouge to re-organize the nation as a closed



agrarian culture resulted in the nearly complete loss of the knowledge and traditions of caring for the country's rich archeological heritage. (All but a handful of the 1,100-plus Cambodian site managers and workers at Angkor disappeared during the country's "auto-genocide.")

The Physical Challenge

All of the 63 major sites within the 200-square kilometer archeological zone are in a ruinous state, some like the key sites of Angkor Wat and the Bayon being more intact than others. The monumental remains of Angkor consist mostly of two kinds of stone, a fine gray-green limestone and laterite, a vermiculated tuff. Brick masonry and scant remains of polychromed stucco can also be found at Angkor.

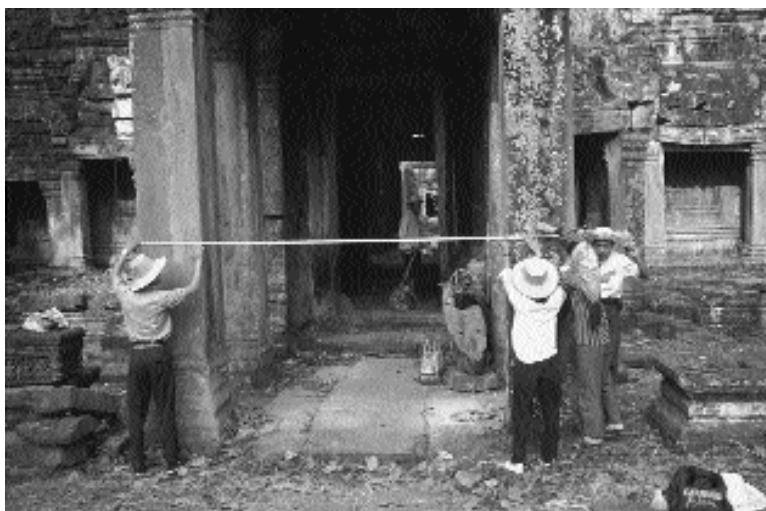
Water and vegetation are the chief threats to the site, and in the past six years, widespread looting and increasing pressures of tourism have added to the problem. These threats and others are currently being addressed in an international effort to safeguard Angkor under the aegis of a newly established government agency called APSARA.

The Educational Challenge

Since 1988, the deans of the schools of architecture and archeology at the University of Phnom Penh have been heroically attempting to manage a fast-growing student population. In

1992, the student-to-teacher ratio in the School of Architecture was 214 to 1. In addition, the school had extremely sub-standard facilities, including no electricity or books. It was revealed to the author by a student that if drafting assignments were to be done at nighttime, the only solution was to move the drawing boards under the street light! At this time, drafting tools of all kinds were either in extremely short supply or non-existent. To this end, WMF provided some relief by bringing in drafting equipment donated by American architec-

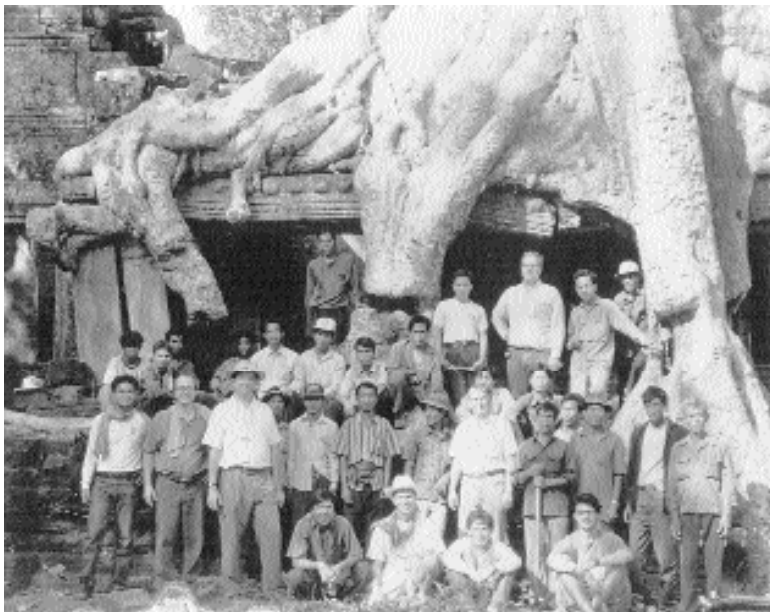
Hand measuring at Preah Khan.



tural firms such as Beyer Blinder Belle (New York) and the Architecture School of Brown University. In 1994, WMF donated the first slide projector to the University.

Other institutions which have aided considerably in the re-establishment of graduate level training institutions in Cambodia have included UNESCO, Sophia University (Japan), the University of Hawai'i at Manoa, and various French institutions. In 1992, UNESCO organized a conference in Phnom Penh on training in historic preservation in Cambodia. While frameworks for establishing a variety of programs in the arts and humanities were analyzed and proposed, perhaps the biggest accomplishment of this gathering was that it made institutions that are in a position to help aware of the situation.

The WMF project team at Preah Khan—March 1994.



A Classroom Extension Opportunity

One of the largest sustained efforts in full-scale archeological site conservation at Angkor has been that of the WMF in its work at Preah Khan, located at the north edge of the archeological park. The specific conservation challenges being faced at Preah Khan have given shape to the teaching topics and formats. [A multi-disciplinary and multi-faceted approach based on thorough planning has been used in a projected 10-year program to conserve the 56-hectare (approximately 138.32 acres) site as a partial ruin within its magnificent jungle context.] Key components of the WMF approach are the use of appropriate technology (the simplest possible) and letting the on-going research and conservation activities at the site serve in educating both graduate students from the national university and local workers.

The WMF's goal at Angkor is to show, by example, how a representative temple complex can

be judiciously conserved and effectively presented. In doing so, a wide range of activities have occurred at Preah Khan ranging from structural stabilization of specific areas of the site and protection of fragile stone finishes to the construction of Angkor's first interpretive center. Annually, the WMF employs up to 70 local workers and craftsmen and as many as 10 specialists. Research developments during each field campaign (October through April) allow for additional research pursuits.

Field Training at Preah Khan

Up to 14 graduate students in architecture and archeology from the University of Phnom Penh have participated each year in the WMF's various missions to Preah Khan. To date, some 23 students have directly benefitted from the experience, five of whom have been returning to the site for over three years.

University of Phnom Penh students assisting at Preah Khan have assisted the project in a variety of ways:

Documentation—field recording by hand measuring, and detailed drawings of plans, elevations, and of a range of architectural details. Documentation of the conditions of the mostly above-grade architectural remains during the degagement (excavation) process has been a principle activity. Recording the complete process of ruins stabilization has proven to be an especially important contribution for the

architectural students.

Analytical Studies—assistance with the complex problems of planning for, and the actual execution of, the reconstruction of fallen masonry. Illustrations of structural systems and architectural details have proven to be useful not only for the annual reports on Preah Khan, but to heighten appreciation among visitors to the site. Translation of text for drawings and site signage has also been an important student activity.

Project Management—The graduate students have played a vital role in the management of day-to-day site maintenance and conservation operations. Up to 70 local laborers, having a variety of skills, provide the bulk of the work force at the site. All are hardworking and eager to be a part of the overall effort to safeguard Angkor. While the regular Preah Khan work force is managed

by local *chefs des chantiers* (specialty managers), illiteracy and language differences—Khmer, French, and English—have posed problems, for which the students have been of invaluable assistance in overcoming.

Design and Construction Oversight—The need for a visitors' reception center near the entrance of Preah Khan was addressed by the graduate students in architecture. An informal design competition resulted in the design of an elegant wooden structure inspired by traditional Khmer architectural forms. The design preparation of the site, the saving of local timber, and erection of the structure was done under the direction of student architect Lek Sareth with the aid of several of his colleagues.

WMF Support of Student Training

Some 14% of each annual budget for the WMF's work at Angkor is devoted to training Cambodian graduate students. This includes the accommodation of their travel, room, board, and materials.

Each of the international experts involved in the WMF's work in Cambodia is obliged to teach or advise students in the field. The WMF also requires that all members of its professional field teams lecture at the University of Phnom Penh while en route to Angkor.

Non-Cambodian students have proven to be most effective in helping to teach Cambodian students. Students from the Graduate Program in Historic Preservation at Columbia University and the Institute of Fine Arts of New York University have also contributed in recent missions to Preah Khan to help Cambodian students to learn about some of the more complicated procedures such as stone repair and cleaning tests.

Preah Khan Project Manager, John Sanday, has served as a regular instructor for the returning students to the site. Other visiting professionals such as Predrag Gavrilovic, a structural engineer; Kevin Lee Sarring, an architect; Frank Preusser, a conservator; and the author also have provided occasional instruction, including thesis advising. Thesis topics have included "The Role of Water at Angkor," "Khmer Bridge Architecture," and the "Plan for the Presentation of Neak Pean at Angkor".

The WMF provided financial support for Mr. Hor Lat, ex-dean of the School of Architecture, to complete his unfinished degree in architecture in Milan, Italy in 1994-95. In December 1995, the WMF obtained financial support for Mr. Lek Sareth to commence supplementary graduate architectural training at Taliesin West in Scottsdale, Arizona. It is WMF's ambition to place and support more promising Cambodian graduate

students who have trained at Preah Khan in foreign degree programs.

The out-of-classroom teaching experience afforded by the field work opportunities at the WMF's project at Preah Khan has proven to be both valuable and useful. Given the role that Angkor plays and will play in the minds, the hearts, and the future of the country, the learning-by-doing experience afforded by field work for students may be counted among the true successes on the international effort to safeguard Angkor.

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The World Monuments Fund (WMF) is a private non-profit organization founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures throughout the world. In its 30 years of activity, the WMF has orchestrated over 135 major projects in 30 countries. Today, with affiliate organizations established in Europe, the WMF sponsors an ongoing program for the conservation of cultural heritage worldwide. The World Monuments Watch, a global program launched in 1995 on the occasion of the 30th anniversary of the WMF, aims to enhance the organization's unique capacity to identify imperiled cultural heritage sites and leverage financial and technical support for their preservation. For further information, contact World Monuments Fund, 949 Park Avenue, New York, New York 10028; 212-517-9367; (telefax) 212-517-9494.