

Possible new explanation found for sudden demise of Khmer Empire

January 3 2012, by Bob Yirka



Map of Southeast Asia circa 900 CE, showing the Khmer Empire in red, Champa in yellow and Haripunjaya in light Green plus additional surrounding states. Image: Wikipedia.

(PhysOrg.com) -- The Khmer Empire, known to many as the Angkor Civilization, was a society of people that lived for several centuries in Southeast Asia in what is now Cambodia, Thailand, Laos and Viet Nam. What has kept the memory of the empire alive are the huge structures built by the people who lived in the area during that time. Also of note were the roadways, canals and water movement and storage systems that were constructed to support a large population. But like many other lost

cultures, what was once a flourishing metropolis, in a very short period of time, gave way to collapse.

Now, work by a group of scientists indicates it may have been due to [drought](#). The group, led by Mary Beth Day, an earth scientist with the University of Cambridge, is to have the results of their efforts published in a report in the [Proceedings of the National Academy of Sciences](#).

The [Khmer Empire](#) existed from the period between the 9th and 15th centuries and was centered around the city of Angkor. During that time, it's very clear that great effort was put into capturing massive amounts of water that came from the skies during the monsoon seasons in the summer, to support drinking and crop growing during the rest of the year. The system apparently worked great for a long time, then suddenly didn't. The reasons put forth for this sudden change have varied, from disease or warfare, to public strife, to changing environmental conditions. Now, it appears due to this latest research, that at least one of the major factors was indeed environmental.

To find out if the problem was a dearth of water due to changes in the weather or the water system, the team took soil samples from one of the largest reservoirs (called barays) built by the Angkor people. Digging down as far as six feet, the team found that prolonged drought and perhaps overuse of the soil for farming may have led to a society unable to feed itself, a sure and straight path to an untimely demise if ever there was one.

In studying the soil samples, the team was able to see sediment deposits that had built up on the bottom of the baray over time. During the years leading up to 1431, thinner layers indicated less water became available for storage. They also showed that the rainfall was more erratic. Instead of steady rains during the monsoon seasons, huge storms would erupt flooding farmlands and dumping massive amounts of soil into the baray,

which were then followed by periods of no rain at all. The result was much less water available for drinking and growing crops during the drier seasons, and possible destruction of crops that the people were able to grow, due to flooding.

This new research doesn't prove for a fact that it was drought that led to the demise of the Khmer Empire, of course, as there were other factors involved. War with neighbors, the conversion of many of the inhabitants to Buddhism, and natural dispersion due to increasing trade with other countries, all likely had a hand. But it does appear that changing weather patterns might have been the final straw.

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