

The history and future of easter island flashcard



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Easter Island is one of the most unusual places on the planet. In *A Green History of the World* Clive Ponting notes, “ Easter Island is one of the most remote, inhabited places on earth. Only some 150 square miles in area, it lies in the Pacific Ocean, 2, 000 miles off the west coast of South America and 1, 250 miles from the nearest inhabitable land of Pitcairn Island,” (Ponting, 1991).

The extreme isolation of Easter Island or Rapa Nui is not the islands most distinguishing feature. The most interesting feature of Easter Island is the evidence that an advanced civilization once lived there.

The most obvious indication of this advanced civilization existing are the moai (pronounced moe-eye). Moai are the huge statues that everyone associates with Easter Island. In *Island at the Center of the World* Father Sebastian Englert states, “ I suppose that for all time the classic symbol of Easter Island will be a gigantic brooding moai, his lips curled with disdain, gazing out to sea from the slopes of Rano Raraku.

Perhaps this is rightly so, for the carving, transportation, and erection of these gigantic monuments were an accomplishment worthy of the highest admiration. (Englert, 1970). What is important about the moai is that they could not have been built by a primitive society. Their very existence suggests that Easter Island had to have been home to an advanced civilization. Sculpting and transporting these huge statues would have required a relatively large and organized society.

This seemed to be impossible from the conditions observed by the first Europeans. According to Ponting, The Dutch Admiral Roggeveen, onboard the *Araucaria*, was the first European to visit the island on Easter Sunday 1722.

He found a society in a primitive state with about 3,000 people living in squalid reed huts or caves, engaged in almost perpetual warfare and resorting to cannibalism in a desperate attempt to supplement the meager food supplies available on the island (Ponting, 1991). The idea that the Islanders could have had the technologies and social organization to make the moai seemed to be impossible to early European visitors.

After all large populations and food surpluses would have been needed to maintain a civilization capable of building these huge monuments.

The people on Easter Island seemed to be too primitive and the resources on the Island seemed to be too small to support a population large enough to build these amazing statues. The poor conditions of both the island and the population on it conceal a totally different history for the people of Easter Island. Easter Island had not always been a desolate place. In fact when the first inhabitants settled on Easter Island it had many natural resources.

According to Richard Grossman in *Overpopulation and the Fate of Easter Island*, "It is thought that they arrived in the fifth century C.

E. The pollen record shows that they found a lush island, with many great trees. At its peak the island supported four thousand people. Their reconstructed history then shows a downward spiral marked by overconsumption of the island's limited resources," (Grossman, 2001). What Grossman and many other researchers have discovered is that Easter Island

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has not always been a desolate place devoid of trees and other natural resources.

In reality Easter Island was originally rich in natural resources like forests, wildlife and fish of every imaginable type.

What seems to have happened is that the population kept growing and eventually the Island's resources could not support the population. This resulted in the barren appearance of the Island and its' relatively small population. Some details of Easter Island's past are hotly debated.

Researchers can't seem to agree on who first settled the island? When the island was first settled? How large the population of the island got? When resource overconsumption started to become a major problem? When the civilization itself finally broke down?

Although, these questions are all hotly debated by researchers, there is a general consensus on a number of points. Basically most researchers agree that Easter Island originally had a an abundance of natural resources, the population grew considerably, overconsumption began to deplete many resources to the point of non-existence, the depletion of resources led to civil war, famine, and cannibalism. Because of the fact that Easter Island is so isolated, the effects of overpopulation and overconsumption, many researchers have suggested that

Easter Island is a perfect microcosm of the earth. Ponting suggests, " The fate of Easter Island has wider implications too.

Like Easter Island the earth has only limited resources to support human society and all of its demands. Like the islanders, the human population of the earth has not practical means of escape," (Ponting, 1991). This means that Easter Island provides a valuable lesson about population growth and consumption. Because the Islanders population was growing at such a high rate and because consumption levels were not reined in the resource base of the island collapsed.

The entire earth is much larger then Easter Island but with growing populations and the ever increasing rate of resource consumption the entire world may share the same fate as Easter Island.

For this reason the history of Easter Island provides a real life cautionary tale for all of humanity. The link between population growth and environmental degradation is very well known. For example, in *Overpopulation, Sustainable Development, and Security* J. Anthony Cassils declares, " In the past fifty years, there have been major advances in our knowledge of biology and ecology.

The best of science and reason suggests that human demands upon the web of life on Earth have exceeded sustainable levels.

Meanwhile, human population and expectation continue to rise, making chaos and collapse very likely unless corrective action is taken promptly," (Cassils, 2004). The history of Easter Island fits very well with this argument. Cassils may have been a little simplistic in his analysis of the situation. For example, Cassils does not seem to realize that environmental degradation is caused by both population and consumption levels.

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This means that it is possible for a larger population to consume fewer resources than a smaller one. This can happen because humans have the ability to change their resource consumption level. This applies to all human societies but at some point even a very efficient society will begin to harm their environment if their numbers continue to grow. This is generally known as carrying capacity within ecology. Carrying capacity provides an explanation for what was observed on Easter Island. In General Ecology David T.

Krohne defines carrying capacity as, " The maximum number of individuals that the resources in a particular environment can support" (Krohne, 1998). Every environment has a carrying capacity. No species is immune to the environment's carrying capacity. Easter Island happens to be a place where isolation resulted in a civilization reaching its carrying capacity. The remainder of this essay will be used to examine the demographic and environmental history of Easter Island.

It will demonstrate how a constantly growing population with finite resources reached its carrying capacity and then crashed.

The events of the first colonization of Easter Island are shrouded in mystery. Even the exact date of first colonization is difficult to determine. In Early Settlement of Rapa Nui Susan J. Crockford and Helene Martinsson-Wallin state, " To conclude the discussion of origins, current data suggest an initial colonization of Rapa Nui c.

A. D. 800-1000 by a Polynesian population, possibly from the Mangareva-Pitcirn-Henderson area or the Tuamotu Islands. South American contact is <https://assignbuster.com/the-history-and-future-of-easter-island-flashcard/>

likely, but evidence indicates that this potential contact may have occurred
c.

A. D. 100-1200 and did not result in any obvious genetic effects on the Polynesians," (Cockford and Martinsson-Wallin, 1998). The exact date of colonization may never be satisfactorily determined.

However, it is now widely accepted that it occurred between 800-1000 A. D. and the original Islanders were Polynesian. The initial colonizing group was originally debated by the eminent historian, archaeologist and anthropologist Thor Heyerdahl. In *Easter Island: The Mystery Solved* Heyerdahl says, " To put it plainly: the Easter Islanders had told us that the first people to settle their own island had come from what we call South America.

There was no other land to the east. And the Short-ears, coming later from the west, would of necessity have been Polynesians," (Heyerdahl 1989). Although Heyerdahl was a very prominent researcher and his theory was possible, there is actually strong historic and genetic evidence from researchers like Cockford and Martinsson-Wallin that suggests that this theory is not true. There is evidence of contact with South America but this was actually a latter occurrence and had no lasting demographic effect on the population.

Many researchers suggest the Easter Island went through numerous stages of development.

One of the best models is the five-step model presented by Helene Martinsson-Wallin in *Archaeological Investigations on Easter Island*.

Martinsson-Wallin explains, Phase 1 (A. D. 700-1100) settlement and adaptation, phase 2 (A.

D. 1100-1425) expansion and development, phase 3 (A. D. 1425-1680) chiefdom integration, phase 4 (A. D.

1680-1750) warfare and fragmentation, and phase 5 (A. D. 1750-1868) post contact decline (Martinsson-Wallin, 1998).

What this suggests is that the demographic history of Easter Island fit well within the carrying capacity theory. The small population eventually grew into a larger population, the population continued to grow and consume resources, then around 1750 the population crashed as warfare, famine and cannibalism reduced the population to a very low level again.

The exact carrying capacity of the island is difficult to determine because when the population was at its largest it had already exceeded the caring capacity of the island.

The peak population of the island is also hard to determine because it was reached before contact with Europeans was ever made. According to Grant McCall in *The Pacific*, " The population probably peaked at about 12, 000 People in the sixteenth or seventeenth centuries," (McCall 84). The exact number of people on the island during the civilizations peak does not matter in a larger sense because it was not sustainable. Whatever the peak human population of the island was it was too large for the islands resources to support so famine, warfare and cannibalism reduced the population to extremely low levels.

Because, the resources had been so depleted the population never did rebound very much. This is because the limited resources and other factors like European colonizers and slavers ensured that the population remained at a far lower level. According to McCall, “ Owing in the first instance to violent inter-tribal warfare and later to European intervention, it sank to its lowest point—110 persons—in 1877” (McCall, 2000). The population has continued to grow but it is unlikely that it will ever reach the levels that it did when the civilization was at its peak.

Warfare seemed to become more and more common as resources became low on Easter Island. For example in Easter Island Alfred Metraux notes, “ The political life of Easter Island, as we glimpse it through legends and accounts left by missionaries, was a perpetual succession of wars and rivalries between tribes-particularly between the eastern and western tribes,” (Metraux, 1957).

Why would warfare become so common on Easter Island? The answer seems to be obvious. There were not enough resources on the island to support the population.

This meant that every remaining resource became more valuable. As the resources became more valuable people were more willing to do anything in order to obtain them.

Eventually the conflicts of resources became so bad that warfare became a common occurrence. Probably the most important of these wars was between the “ Short-ears” and the “ Long-ears” the two major groups on the island. According to Heyerdahl, “ The revolt of the Short-ears put an end to

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all work in the quarries. Some statues remained unfinished and other were abandoned while “ walking’ along the roads.

The fatal war brought victory to the Short-ears but no lasting peace to the island. New family feuds sprung up among the descendants of the intermarried groups, and a terrible period, traditionally known as the huri-moai, or ‘ overthrowing-of-the-statues” era, began,” (Heyerdahl, 1989).

This would seem to validate Metraux’s statements. After the attempted genocide of the Long-ears the Short-ears became the dominant people on the island. However, resources were still scarce so conflicts still occurred between the various tribes.

Cannibalism that had been a ritual practice on Easter Island increased, as resources became scarcer. This argument is proven by Father Sebastian Englert when he suggests, “ Though ritual cannibalism may have been present earlier, this practice now increased greatly, and the emphasis changed to a more secular food cannibalism,” (Englert, 1970). What this suggests is that the food sources on the island were becoming quite scarce.

With a large population to feed and not enough food cannibalism was a reasonable method of population control.

So while cannibalism had always been a minor ritual on the island it was now becoming a major source of food. Wars were often just an excuse to kill people for consumption. In this way warfare became a method of population control and a way of gaining food, and as the available resources continued

to decline warfare and cannibalism increased to such a level that the population was decimated.

Is there evidence that human resource use resulted in environmental degradation? There is ample evidence that human resource use caused considerable environmental degradation on Easter Island.

Probably the most important evidence of environmental degradation was the disappearance of the forest. Ponting states, " The deforestation of the island was not only the death knell for the elaborate social and ceremonial life it also had other drastic effects on everyday life for the population generally. From 1500 the shortage of trees was forcing many people to abandon building houses from timber and live in caves, and when the wood eventually ran out altogether about a century later everyone had to use the only materials left," (Ponting, 1991).

The loss of the forest is probably the most important environmental impact that human resource consumption had on Easter Island.

Another interesting impact that humans had on the environment of Easter Island had directly related to the agricultural suitability of the island. Easter Island was not ideally suited to agricultural cultivation. In particular the soil was of relatively low quality. In Prehistoric Agricultural Production on Easter Island Sonia Haoa et al argue, " Easter Island is situated in the dry zone of the Pacific Ocean.

It has a subtropical to temperate climate with a seasonal growing season.

Rainfall averages 50 inches (120 cm), little of which falls during the actual growing period. Basalt rocks weather into phosphate-rich soil which provides quite adequate conditions for plant growth. The soils are excessively drained and have little moisture retention capacity, moisture retention was the limiting factor faced by Rapanui agriculturists," (Sonia Haoa et al, 1999). What this meant is that there was only a limited potential for agriculture on Easter Island.

Agricultural productivity was also hampered by the regular warfare.

Englert suggests, " When violence disrupted the balance, much food-producing work became more difficult or impossible, with crops being burned or otherwise destroyed, and quite suddenly all the people suffered sharply increased deprivation. Attempts to alleviate this by more violence against neighbors further disrupted food production, and the situation became progressively worse," (Englert, 1970). What this meant was that the limited productivity of agriculture on Easter Island was made even lower by warfare and food had to be obtained from other sources.

The only other source of food that was available was animal meat. This meant that an increasing large part of the Easter Islander's diet seemed to be derived from meat sources.

This included fish, sea mammals and other marine life as well as the chickens, pigs, and rats that the settlers brought with them. The increased reliance on animal products seems to have caused certain species to become rare and possibly even extinct. The native bird populations were

also a food source for the Islanders. These wild birds appeared to be particularly hard hit by human hunting practices.

According to Crockford and Martinsson-Wallinn, “ When comparing the bird bones from the early deposits with bird bones from later deposits at Anakena, it is also clear that the native birds became less abundant and some even became extinct over time,” (Crockford and Martinsson, 2001).

This is particularly important because it suggests that the people of Easter Island were detrimentally affecting the wildlife on the island. Not only were some species becoming rare, but entire species were going extinct. In environmental terms this was particularly detrimental because it meant that the biodiversity of the island was being depleted.

Changes in the marine life consumed also seemed to indicate that the environment was being degraded by Eastern Islanders resource consumption. According to Crockford and Martinsson-Wallin, “ As shown in the analysis, the majority of fish types found in the deposit live in habitats ranging from 500m to 1000m offshore.

This suggests the utilization of offshore fishing strategies, including seaworthy crafts, and fishing techniques such as trolling, long-line angling, and net fishing,” (Crockford and Martinsson-Wallin, 2001).

What I believe they are saying is the fishing strategies of the early settlers were based on offshore species, which meant large predatory fish and small sea mammals like dolphins. Eventually, the fishing strategies changed. For

example, Crockford and Martinsson-Wallin state, " Limited evidence of inshore fishing strategies and domesticated fowl is also seen in early sites.

However, analyses of the bone remains from later sites indicate that inshore strategies and the use of domesticated fowl were the most common subsistence strategies.

This could indicate a shift in subsistence strategy from marine hunting to near-shore fishing-collecting of sea shells, chicken breeding, and farming," (Crockford and Martinsson-Wallin, 2001). The marine life available to the Easter Islanders shifted over time. This could mean one of two things. The first option is that the Easter Islanders depleted the offshore fisheries.

This has occurred in modern times so it is a possibility. The other option is that the Easter Islanders lost the ability to make seaworthy boats.

This would mean that the offshore marine resources would have still been there but they would not have been able to access them. There is strong evidence that the inability to make boats was responsible for the shift.

Ponting proves this point when he states, " Canoes could no longer be built and only reed boats incapable of long voyages could be made. Fishing became more difficult because nets had previously been made from the paper mulberry tree (which also could be made into cloth), and that was no longer available," (Ponting, 1991).

The inability to make canoes meant that offshore fishing was practically impossible. The inability to make good nets made fishing offshore even more difficult. This meant that a change from offshore to inshore fishing was

necessary because it was largely impossible to access offshore marine fishing resources. Although these arguments might not sound too bad, it demonstrates how resource overconsumption resulted in environmental degradation. The lack of wood meant that offshore fishing was next to impossible causing that other meat sources to be utilized.

Inshore fishing would have provided some food, but it was not enough to feed a growing population all by itself. The low productivity of agriculture meant that other meat sources had to be relied upon. This started with wild birds, then domestic birds and animals and then finally people. In closing, the culture and history of the inhabitants of Easter Island have set scientists and researchers alike on a quest to find answers to the mysteries that seem to constantly elude them. How could such a primitive civilization create such wondrous works of art and transport them to their final resting places without heavy machinery?