



The Effects of Environmental Instability on Egyptian & South African Treasures

By: Rileigh Hanley & Keelie Hanley



Figure 1 – Flag of Egypt (14)



Figure 2 – Flag of South Africa (5)

Abstract

Both Egypt and South Africa are known around the world for their one-of-a-kind tourist attractions dependent on the natural environment for sustainability. As food and water become more limited in South Africa, the natural ecosystems and animal population dwindle, which in turn becomes detrimental to the country's local culture and economy; struggling to advance. By traveling to South Africa, the questions of "What implications have food and water insecurity had on South Africa and how has the culture and economy of South Africa adapted to a decrease in food and water accessibility?" were explored. Egypt is home to ancient treasures, artifacts, and Wonders of the World; however, these historical gems are at risk of decaying and ultimately disappearing due to population growth and the effects of climate change. Traveling to Egypt as well, the questions of "How has climate change and population growth threatened Egypt's ancient treasures and economy and what can be done to mitigate those threats?" was answered. This type of research was dependent on observing different communities/cultures, witnessing how the ecosystem decline has affected local culture, listening to archaeologists and wildlife guides, exploring exhibitions which cannot be found anywhere else. Food and water insecurity, climate change and population growth are all interconnected issues that lead to instability in the economy, culture, historical landmarks, and world known attractions.

Research Questions

- What implications have food and water insecurity had on South Africa?
 - How has the culture and economy of South Africa adapted to a decrease in food and water accessibility?
- How has climate change and population growth threatening Egypt's ancient treasures? What can be done to mitigate those threats?
 - How has the increased climate threat and urbanization effected Egypt's ancient attractions and economy?
- Food and water insecurity, climate change and population growth are all interconnected issues that lead to instability in the economy, culture, historical landmarks, and world known attractions. The relationship between water and food production provides the basis for resilient, sustainable food systems, healthy ecosystems, and human well-being.⁽¹⁵⁾

Methodology

- Ethnographic research is conducted through observation, so in order to properly collect the appropriate data, traveling to both Egypt and South Africa was essential.
 - This type of research was dependent on observing different communities, witnessing how the ecosystem decline has affected local culture, listening to archaeologists and wildlife guides, and exploring exhibitions which cannot be found anywhere else. Photographs were taken of the current states of the ancient monuments and exhibitions/artifacts as well as dig sites and religious locations. This research involved comprehending a different peoples' living environments/culture, as well as observing in a nondirected way and seeing people's behavior on their terms, not our own.



Credit: 7

Figure 4 – Well Retrieval - The government supplies water for the schools, government buildings, churches (which also have in house donations) and Nonprofit Organizations, not the village itself. Half of the village has water and half does not.



Credit: 7

Figure 3 – Transporting Clean Water - the ancestors of local adults thought it was necessary to have multiple wives in order to farm the land and also multiple people were needed to go kilometers away for water. However today, they may still not have running water inside buildings, but due to the work of the safari companies, clean water is being brought to the villages. Before the pump the locals got water from the dam, which is the same place the animals drink and waste is disposed of.

Egypt

Figure 5 – Abu Simbel Temple- the large and small temples were cut into 1,042 precise blocks and moved to the banks of the created Lake Nasser,⁽⁸⁾ to prevent water damage caused by the Aswan Dam due to flooding. However, even with these precautions, tourists can still see the definitive lines made from the hand saws as well as the numbers written on the blocks within the rebuilt temple.



Credit: 1

Figure 6 – Philae Temple - and infiltrated by water and submerged due to flooding. The sediment within the Nile started to rest itself along the walls and floor, and with the combination of intense sunlight and increased wind speed meeting with sediment, it was unable to be removed during its own recovery effort. The handsaw markings can also be seen within the temple when it was subsequently cut into 4000 pieces and moved to escape the rising waters.⁽¹⁶⁾ Additionally, when Napoleon invaded Egypt, an entire wall of the inner temple was graffitied "The first division of Napoleon was here,"⁽⁶⁾



Credit: 12



Credit: 12



Credit: 3

Figure 7 – Edfu Temple- When the Roman Empire banned non-Christian religious practices in 391 AD, the ceilings were burned in an attempt to eradicate the testaments of paganism.⁽¹¹⁾



Credit: 3

Figure 8 – Pyramids and the Egyptian Museum Another major issue that comes with urbanization is the lack of care that is dispensed towards these treasures. Unlike popular belief, the entrance to the Pyramids of Giza lay right in the middle of the city's traffic zone, 10 feet away from a Pizza Hut. Not only is the street entrance filled with garbage and dirty water, it surrounds the pyramids as well. There is trash along the entire entrance, and it stretches to the very base of the Pyramid of Khufu and wraps around to the others. This level of disregard contributes to their deterioration and the desecration of their beauty. Additionally, in the Egyptian Museum, only some of the artifacts of Tutankhamun were in a climate-controlled environment and there were few barriers to prevent people from touching the exhibits to the point where even the tour guides would touch the exhibits in order to point out details.



Credit: 9

Figure 9 – Kom Ombo Temple With the increase of urbanization of the city of Kom Ombo, supplies were increasingly scarce, so large blocks of stone were taken from the temple in order to build more residences. This temple is currently an active dig site where artifacts are being sought out, however the dig site itself stops abruptly at the edge of a cafe, as the city limits have expanded right to the edge of the temple.



Credit: 4



Credit: 9

South Africa

- "Southern Africa's temperatures are rising at twice the global average rate, according to the International Panel on Climate Change, and in much of South Africa the level of water in reservoirs is dwindling."⁽²⁾
- As food and water become scarce the natural ecosystems and animal population dwindle, which in turn becomes detrimental to South Africa's local culture and economy.
- 5/9 provinces were declared disaster zones, costing South African farmers more than \$600 million and more than 2/3 of their animals were lost over the last three years.⁽²⁾
- Costs have risen for the safari companies/lodges, but hunters are paying less for game and fewer tourists are coming as the animals are less likely to be spotted or they are in worse conditions.⁽¹⁰⁾
- The number of animals' lives lost continued to increase, a lodge with around 4,500 wild animals had lost around 1,000 animals due to drought.⁽¹⁰⁾ The environment is constantly adapting to the changing conditions of the Bush. When a drastic number of animals pass away, there is an upset in the food chain.
- This multi-billion-dollar industry is in jeopardy and as a result the surrounding rural communities that depend on safaris for income and resources are struggling to advance. The culture of the local villages have changed due to environmental and economic effects.
 - Where the safari industry is prevalent, local villages/communities are sponsored by a safari company. "The safari companies form partnerships with local communities in support of schools, sports facilities, cultural activities and has a community program that includes education, healthcare, sport, culture and conservation programs, as well as bringing these communities clean water."⁽¹³⁾
 - The companies offer their guests community tours, so they are able to experience local culture. The fee required to go on the tour reverts back to the community.
 - Example: The community of Huntington, an authentic Shangaan village
 - Donors that went on the community tour alone have given monetary sums to help supply boreholes (boho as locals call them) or water pumps to supply about a quarter of the village with clean water.



Credit: 7

Figure 10 - Borehole These contraptions pump water from underground to the above ground tank, to the pipe, and the pipe goes to a certain waterspout in the village. Each Boho costs 1.5 million ZAR or about \$82,861.48 USD (depending on exchange and inflation rate).

- With these economic advancements provided by the safari companies, it has given the village education which expands the mind. This is shown through the Chief of Huntington as the first to elect not only women to his cabinet but 8 total and has vowed to make sure the next Chief is a woman, which would be a vast cultural shift.

References

- Abu Simbel Temple (2022). Abu Simbel, Egypt. July 2022
- DI LIBERTO, TOM. "A Not so Rainy Season: Drought in Southern Africa in January 2016." Edited by MICHELLE L'HEUREUX and STEVEN FUHRMAN, NOAA *Climate.gov*, 7 Feb. 2016. <https://www.climate.gov/news-features/event-tracker/not-so-rainy-season-drought-southern-africa-january-2016>.
- Edfu Temple (2022). Edfu, Egypt. July 2022
- Egyptian Museum (2022). Cairo, Egypt. July 2022
- "Flag of South Africa." Wikipedia, Wikimedia Foundation, 13 Oct. 2022. https://en.wikipedia.org/wiki/Flag_of_South_Africa.
- "Graffiti at the Entrance to the Temple to Isis at Philae." *Napoleon.org*, Foundation Napoleon, <https://www.napoleon.org/en/history-of-the-two-empires/images/graffiti-at-the-entrance-to-the-temple-to-isis-at-philae/>.
- Huntington Village (2022). Huntington Village, Mpumalanga, South Africa. August 2022
- Kiniry, Laura. "Egypt's Exquisite Temples That Had to Be Moved." *BBC Travel*, BBC, 10 Apr. 2018. <https://www.bbc.com/travel/article/20180409-egypts-exquisite-temples-that-had-to-be-moved-text-Beginning%20in%20November%201963%2C%20a%20moved%20and%20restored%20to%20their>.
- Kom Ombo Temple (2022). Kom Ombo, Egypt. July 2022
- Nguka, Onke, and Tanisha Heiberg. "Years of Drought Threaten South Africa's Wildlife Industry." *Reuters*, Thomson Reuters, 6 Jan. 2020. <https://www.reuters.com/article/us-climate-change-safrica-wildlife/years-of-drought-threaten-south-africa-s-wildlife-industry-idUSKBN1Z50WY>.
- Perera, Nichole. *The Destruction of Statues in Late Antique Egypt: A Widespread Phenomenon or Christian Polemic?* University of Ottawa, 2017. https://uor.uottawa.ca/bitstream/10393/37020/1/Perera_Nichole_2017_Thesis.pdf.
- Philae Temple (2022). Aswan, Egypt. July 2022
- "Sabi Sabi Luxury Safari Lodges: Guests Can Experience Authentic Shangaan Community Tours." *Sabi Sabi Private Game Reserve*, 8 Aug. 2022. <https://www.sabisabi.com/programmes-shangaan-community-tours/>.
- Smith, W. (n.d.). Flag of Egypt. Encyclopedia Britannica. Retrieved April 6, 2022, from <https://www.britannica.com/topic/flag-of-egypt>
- Vilakazi, Nokuthula, et al. "Unlocking Water Issues towards Food Security in Africa." *IntechOpen*, IntechOpen, 15 July 2019. <https://www.intechopen.com/chapters/67624>.
- Wright, Wally. "Philae Temple: Saved from Destruction." *The Not So Innocents Abroad*, The Not So Innocents Abroad, 4 Nov. 2019. <https://www.the-not-so-innocentsabroad.com/blog/philae-temple-saved-from-destruction>.
- ZEELE, CHANNYN-LEE. "Have the First Rains Fallen?" *Sabi Sabi Private Game Reserve Blog*, 29 Aug. 2017. <https://www.sabisabi.com/blog/14098/have-the-first-rains-fallen/>.

Acknowledgements:

Faculty Mentor Dr. Aaron Clevenger & the Office of Undergraduate Research