

UC Merced Through a Socio-Environmental Imagination Lens

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The socio-environmental imagination will be applied to the University of California, Merced, in hopes to understand the connection between society and UC Merced. UC Merced is located in Merced, California. It is the 10th university in the UC system and the first American research university of the 21st century. It has both undergraduate and graduate divisions. Consisting of three schools: Engineering, Natural Sciences, and the Social Sciences, Humanities, and Arts. There are currently two schools in the making, the E&J Gallo School of Management and a future medical school, which will begin enrolling students in 2023. UC Merced is the leading UC campus with the highest percentage of students from underrepresented ethnic/racial groups, low-income families, and first-generation students. I decided to choose UC Merced for my research because I am a first-generation, low-income, UC Merced student, and I wanted to add onto my knowledge of campus. The socio-environmental imagination can be seen as a framework that analyzes personal troubles as social issues which can then lead to environmental issues. This framework consists of three infrastructures. Those being cultural infrastructures (CI), material infrastructures (MI), and ecological infrastructures (EI). Cultural/social infrastructure refers to the organization of ideas, social norms, values, policies, and institutions. Material infrastructure is the organization of things to produce. This infrastructure focuses on building materials, scientific compounds, and the structure of a place. Ecological infrastructure refers to the ecology and environment. It is useful to know about the different infrastructures of the university since they impact the students culturally, financially, and environmentally. These factors impact the city of Merced, public policies, and people who do not attend the university. The socio-environmental imagination is important because it allows us to see how social issues can be interrelated to environmental justice problems. In this paper, I will apply the socio-environmental imagination to UC Merced, in order to explore the interconnection between

society's values to production and its corresponding environmental impacts on ecosystems and workers.

Cultural/social infrastructure is the thought process, motivation, and reasoning for why an institution or place should be built. This can also include social norms, values, and beliefs. These components highly influence the location and logic behind why a place should be built. Every institution and its location are built behind culturally, financially, and emotionally motives. Specifically, UC Merced's location was chosen because there were no public universities in the Central Valley Region. This location helps locals nearby who wish to pursue a higher education while staying close to home. The institution itself supports minority groups and is a welcoming campus. During the 1990s, the plan to build one more UC campus was challenging because of the "Tax Revolt". 2005 was the year UC Merced was opened. The Regents approved the building and construction of UC Merced in January of 2002 (Descrochers, L. A. 2011). The shifts in the State's economic fortunes, demographic profiles, environmental, and growth challenges made it difficult for the building plan to get approved. But, luckily it did. The University of California and the State of California did come to the agreement, making Merced the tenth UC campus. There was doubt for the resources and growth needed for UC Merced. As we fast forward to the present, we can see that UC Merced has grown tremendously. Despite the challenges it faces being a public school which gives a lot of financial aid to students from low economic backgrounds. Additionally, there has been historical economic effects since the opening of UC Merced in Merced, California. There has been a study conducted to estimate the short-run economic effects due to the opening of UC Merced, during 2005-2014. The overall finding conducted that the opening of the campus in this location "increased local employment by 13%" (Lee, J. 2019). These jobs were in industries like the service sector. Some of the social

norms at UC Merced based on my understanding as a third-year undergraduate student are partying on the weekend, doing homework, studying in the library, joining clubs, sororities, fraternities, and being outgoing. These norms are going to be dependent based on every individual. Some students may prefer not to go out and vice versa. Moreover, there are many policies and organizations within UC Merced. An important policy is the Administration of Student Conduct which is in reference to the UC Systemwide Conduct. UC Merced created the Office of Student Conduct (OSC) to monitor academic and nonacademic misconduct in hopes of keeping academic integrity at UC Merced. Another policy is the University of California's Policy Clery Act. This policy regards campus safety and security reporting and is the foundation for safety at all UC campuses, including UC Merced. It claims to allow students and staff accurate crime data on and around campus, access to university wide security policies, and a confidential report process for victims/witnesses (Clery Act Policy 2018).

Next, Material infrastructure refers to the buildings, more specifically the materials, spaces, and structures needed to create them. Materials include such as steel, wood, stone, tools, labor, and even location. This process is how a place becomes reality. In particular, UC Merced's goal is to maintain campus environment, create sustainable high-quality projects, and research/public service missions. The campus has set high environmental standards. The new UC Merced 2020 project expansion has eleven new buildings. Some including Sentinel Rock, El Portal, Administration Building, Recreational Center, Wet/Dry Laboratory, and the Lakireddy Grand Ballroom. In particular, UC Merced's Science and Engineering 1 Building has sustainability features including: low pressure drop design for air systems, CO2 sensors to minimize airflow during low occupancy, evaporative pre-cooling" (UC Merced. n.d). "Building UC Merced. "Each building was designed for the functions it would be used for. The Social

Science and Management Building is a three story, 101,900 square foot building. It has “water-efficient landscaping and recycled materials”. The campus and particular buildings have received sustainability awards. At UC Merced, “every building is LEED certified; the campus is using 50% less energy and 40% less water than comparable developments and is the first campus in the nation to achieve 10 LEED base points in the US Green Building Program” (UC Merced). There are two current infrastructure projects at UC Merced. The Central Plant/Telecommunications complex and the Logistical Support/Services Facility. The Central Plant and Telecommunications Complex provides cooling, electricity, heating, hot water, and steam to UC Merced’s campus and will “eventually serve up to 2 million square feet of campus buildings” (UC Merced. n.d). It is the first energy plant in the nation to achieve LEED Gold. Telecommunications building allows the campus to have telephone, internet, and data processing communication. In addition, the Logistical Support/Safety Facility (LSSF) runs campus Facilities Management and safety personnel. These including a shop, warehouse, office space, and yard for campus vehicles. The LSSF consists of two metal clad buildings joined by a loading dock. The buildings are made of metal sliding, factory finished aluminum windows, and energy efficient dual panes.

UC Merced became the first university in the nation to achieve carbon neutrality. This is important for the campus because it shows that you can still have sustainable buildings within an institution. The institution was constructed and built on sustainability. Notably, Michael Duncan, an architect and design partner for SOM, has been involved with planning and design of UC Merced since the beginning of its conception. Duncan claims to remember walking down seeing nothing. He states, “Merced had the chance to do something that the other UCs couldn’t do: They could start from scratch and set a new goal for what a future campus in California could

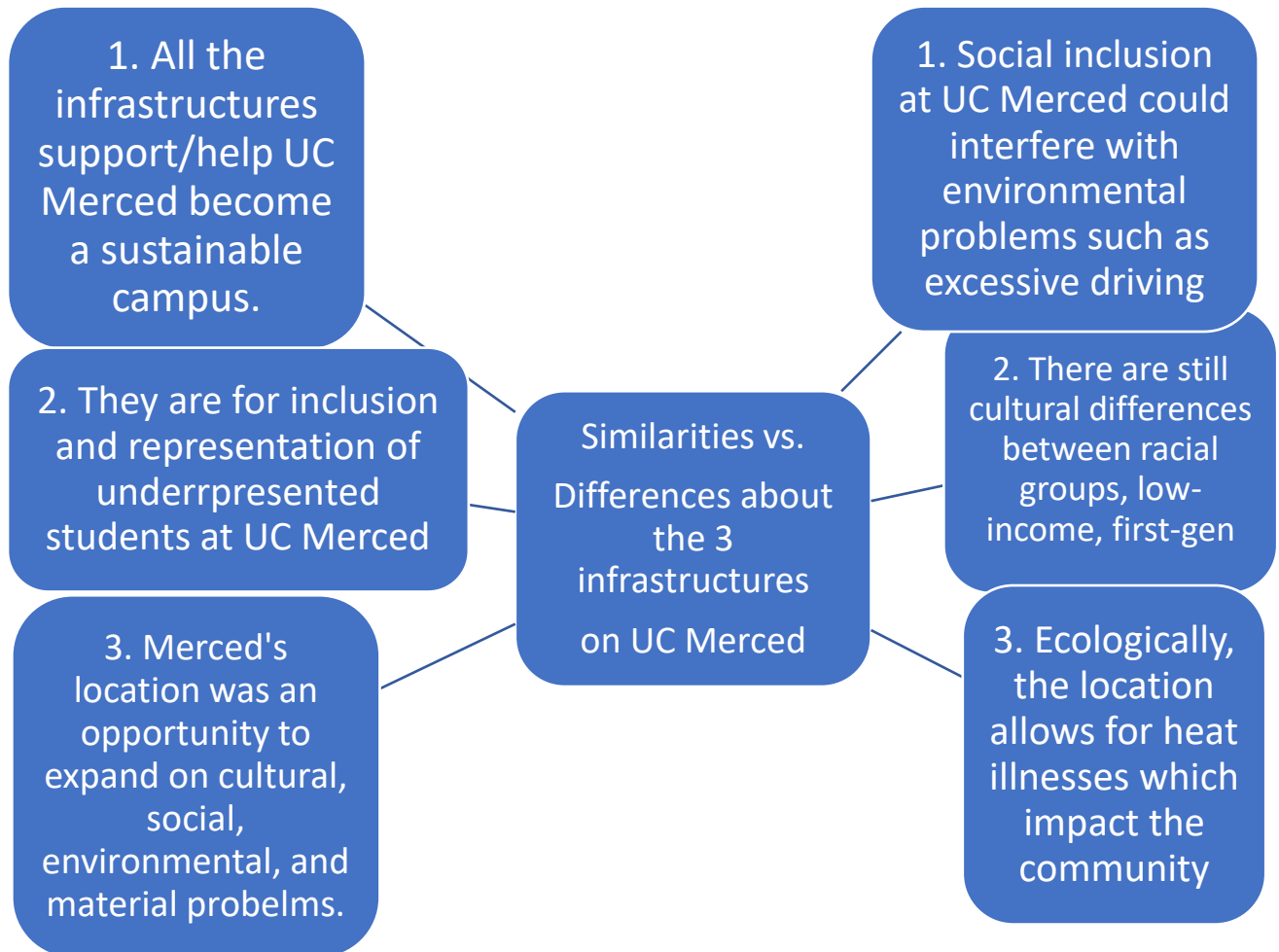
be” (SOM 2021). This indicates that the location and space allowed easier access to make the campus even more sustainable. Material infrastructures are essential to how an institution will develop and its effects on the environment and society around it.

Ecological infrastructure is the examination of how an environment is affected by the material infrastructure on populations and ecosystems. This infrastructure goes into specifications on how the environment gets influenced by human made buildings such as UC Merced. While universities provide great outcomes and social mobility, they can also bring harm unto the environment. UC Merced is located in a high poverty and low-income area. With that comes challenges such as water quality, energy, food, and even air quality. On campus residents are forced to get a dining meal plan. Yet, the quality of the food is poor. This leads to an increased amount of trash and toxic waste in our landfills. While the Pavilion Dining Center at UC Merced aims to be sustainable, the food is not the best quality. This causes a dilemma between trying to save and help the environment versus serving bad and even at times, inedible, food. Some environmental consequences of UC Merced include the amount of carbon dioxide being released in the air due to personal car transportation. There is a lack of public transportation that would be adequate for the entire undergraduate and graduate population at UC Merced. Even so, students have jobs, internships, etc., and most likely need a car at all times. We would need to account for the commuters and faculty as well. In Merced, bus transportation is seen as inadequate. While UC Merced does have buses for students, times may interfere and other activities. A big health risk given the location of UC Merced is the air quality considering its high levels of pollution. Students who were not raised in the Central Valley, may have a difficult time adjusting to the new weather, allergy and pollen patterns. However, there is an on-campus health center in which students are free to utilize. Furthermore, the University of

California Office of the President Energy & Sustainability division has helped UC Merced achieve carbon neutrality. UC Merced is the first public research university in the nation to achieve carbon neutrality. This is an exciting sustainable reach for UC Merced and proves that it is possible to make an institution environmentally acceptable. The UC Sustainable Practices Policy ensures that campuses in the UC System “would reduce energy use towards Carbon Neutrality goal achievement” (UC Merced. n.d). On top of that, UC Merced meets Title 24’s building energy efficiency standards in California. The campus has used building energy performance targets since it was built. These foundations allow for the school’s buildings to have high energy performance. UC Merced is a prime example of how campuses should be incorporating sustainable practices.

UC Merced is a fast-growing institution that extends educational, cultural, and social awareness. The three infrastructures: cultural, material, and ecological, explain how important the location, setting, population, and norms are for places such as buildings and universities. The location of UC Merced, was chosen because of the lack of a higher institution in the Central Valley. Society deemed it necessary to add this institution, in hopes to broaden opportunities, career/jobs, and accessibility within Merced and nearby cities. An example of all three of these infrastructures blended together, is human ecology. This framework claims that humans affect the environment and the environment affects humans. The socio-environmental imagination can be used to determine the impact of affected environments caused by the placement of UC Merced. These three infrastructures combine with one another to produce places such as educational institutions. The relationship between society and environment has always existed and depends on “the mode of production”. The mode of production is defined as the economy system. Foster argues that we must “adopt an historical approach to environmental problems”

(35). This highlights how information from the Industrial Revolution helps the environmental impacts of capitalism.



As you can see, the above figure is a demonstration of the similarities and differences between the three infrastructures. All three of the infrastructures bring different awareness and knowledge to the place being analyzed.

Sustainability, is a concept that creates and maintains conditions that allow humans and nature to coexist. Sustainable practices can help improve UC Merced's ecological infrastructures. It is this resource that has helped us as a society to live with nature. Humans destroy more than they need. Ironically, even environmentally friendly actions still cause some

harm to Earth. Despite the sources used and the interconnection of programs/learning on this topic and in class connections, there are some things that will help aid the continuation of research and expansion of knowledge. For example, there was a study conducted on “Improving Campus Sustainability and Quality of Life”. This study examined UC Merced’s effort to maintain its Net Zero Energy 2020 Triple Zero Commitment and the lack of sunshade on campus. This plan’s goals are producing zero waste, zero net greenhouse gas, and consumption of zero net energy. The proposed solution is to have shaded walkways on campus that are “roofed with solar panels” (Landavazo, M. 2017). The shade would be beneficial to students, especially with Merced’s high temperatures. Greenhouse gases are still a concerning issue which harm the community and environment. By slowly adding small features like a solar panel staircase, there will be a decrease in the amount of greenhouse gases being put into the atmosphere. Another way to help sustainability here at UC Merced is by updating the public transportation system to fit the needs of college students. This can be done by creating a functional, well-organized route and time zones to accurately transport students on time. Most people who have a car, will not take the bus because it takes up too much time. Finding a faster, more convenient way can help, especially if a group is carpooling. There are ZipCars provided on UC Merced’s campus although they are very limited. Additionally, freshmen are not able to bring a car on campus. This means they can take advantage of public transportation, while saving money and helping the environment. The vision includes long-term systems to keep up sustainably. This is key because as society evolves so does the environment, in which we must adapt our sustainable practices as well.

In conclusion, analyzing UC Merced through a socio-environmental imagination lens allows us to understand specifications on why, when, and how the university was built. Through

my research, I was able to add onto my knowledge of UC Merced. There is a lot of understanding to be had using the socio-environmental imagination. The combination of cultural, material, and ecological infrastructures show how you must analyze things from different aspects. The cultural infrastructure examines society's motives. The material infrastructure describes how/why something gets created. The ecological infrastructure examines how a specific item like a building/object is impactful and harmful on the environment. Once these are all combined and analyzed simultaneously, we can make connections about the whole. Thus, it is shown through the imagination lens that we need critique in order to improve a place/object. UC Merced has taken a lot of criticism as a new institution but they took the advice to build new buildings and infrastructure in the future. UC Merced is constantly adapting and changing. In order to keep up, we must examine these three infrastructures frequently. In short, once the socio-environmental imagination is applied to UC Merced, we will have a better understanding of the interconnection between society's values towards production and its corresponding environmental impacts on ecosystems and workers.

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