

ENVIRONMENTAL JUSTICE
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A NEW US - MEXICO BORDER

A Sustainable Border Concept

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US-Mexico border wall in Olay Mesa, California on August 13, 2021. Image: CNN

INTRODUCTION

The dominant narrative surrounding the US - Mexico border revolves around the preservation of national security specifically for the United States. While the construction of a continuous, impenetrable border wall is controversial in and of itself, it is also equally important to address the less prominent issues surrounding the existing fragments of border walls. Not only are these barriers proving ineffective for deterring illegal immigration, but they have also created sites of environmental racism impacting the surrounding communities that live on either side of the border.

Environmental injustice manifests itself in a variety of ways along the stretch of the border. These injustices stem from physical barriers, infrastructural inadequacies, and industrial corridors, all of which are products of the border and the policies behind it. All of these factors contribute to higher risks that border communities face daily, especially in regards to livelihood, health and life. It is important to distill how communities surrounding the border are disproportionately impacted by the border wall as it stands today. As such, there is an opportunity to reinvent the border into a sustainable force rather than a destructive one. The following project will imagine one conceptual reinvention of the border.

THE CASE OF AMBOS NOGALES

The US-Mexico border divides Ambos Nogales, or the sister cities of Nogales. One is located in Arizona, USA, and the other in Sonora, Mexico. The physical border wall acts as a dam in this region, causing major flooding in both cities. While flood exposure is equal in Ambos Nogales, the environmental justice implications derived from the flooding impact the Nogales, Sonora side more than its US counterpart. This is due to a variety of reasons, the main ones being the increase in population density, greater amount of impervious surfaces, and poorer quality of housing on the Nogales, Sonora side. The US is arguably responsible for the increased flooding in recent years in Nogales, Sonora. Water naturally runs northward towards Arizona from Sonora, which transforms the border wall into an inequitable dam. During flood events, the wall acts as flood protection for the US side but exacerbates flood damage on

the Mexico side by retaining water. In an effort to address this issue, there is a large drainage pipe that punctures the border wall to allow water to drain from Sonora to Arizona. However, due to concerns of illegal immigration, the US border patrol constructed a barrier inside the drain without informing the Mexican government. As a result, the drain does not operate as intended, creating these inequitable flooding conditions in Nogales, Sonora.¹

DISMANTLING THE WALL

The most obvious solution to inundation risk is to deconstruct and remove the wall - the literal floodgate in Ambos Nogales. Needless to say, dismantling the wall is an extremely controversial topic as evident by the former president's adamantness to build a continuous barrier along the entirety of the border. However, to construct a continuous border wall for the sake of national security is flawed

logic. Considering the fact that most undocumented immigrants in the US are those who entered legally and whose visas have expired, a physical wall is not a worthy solution of the challenge of illegal immigration. Furthermore, exacting the phrase of "where there's a will there's a way," there is no wall that can completely deter illegal immigration in its entirety.² Instead of focusing on a clearly performative act of building the wall, both the US and Mexico governments should redirect their efforts into addressing the actual issues that are pervading the border populations today.

One of the leading causes of illegal activity surrounding the border wall is the economic disparities between the US and Mexico. A 2015 study published in the *Journal of Conflict Resolution* stated that "significant economic disparities between the states will create incentives to illegally transport people or move goods readily available in the poorer



Flooding at the Nogales border wall. Image: Sean Sullivan / Wild Sonora

country but highly regulated in the richer country.”³ Therefore, a comprehensive alternative to the current border situation would be one that addresses financial differences between the US and Mexico.

COMPOUNDING ENVIRONMENTAL INJUSTICES

Unfortunately, resolving economic issues is not the panacea to the complex border problem. In addition to flooding, the history and policies behind the border wall have compounded the environmental injustices even further in this area.

In 1942, the US began the Bracero (“Mexican laborer”) Program which allowed Mexican workers to cross the border legally to support industries whose workers left to serve in WWII. The program ended in 1964, at which point thousands of Mexican laborers were forced to return to Mexico, leaving the Mexican border cities overpopulated with a large force of unemployed workers. In response, Mexico created the Border Industrialization Program which incentivized the US to place industrial plants in Mexico due to the availability of cheap labor in the area.⁴ Thus began the regime of the maquiladora, or US owned factory, on the US-Mexico border.

While maquiladoras provide thousands of jobs, they also produce environmental injustice due to their toxic and polluting natures. Industrial sites in this area have a reputation of contaminating the air, soil, and water around them by releasing toxic chemical waste. Several studies have concluded that the health risks in these industrial areas near the border are higher than those in more rural areas, which is reflected in higher mortality rates. Industrial air pollution, especially in the form of black carbon, contributes to respiratory and heart diseases.⁵

Lastly, while Ambos Nogales faces extreme flooding events in the summer, the rest of the year is marked by intense drought due to the climate emergency as well as over-reliance on aquifer sources. As a result, many cattle farmers have had to watch their cattle starve to death due to feed scarcity, a result of lack of rainfall. This phenomenon impacts farmers’ livelihoods as well as Nogales’ overall economy.⁶

A new border strategy would be most impactful if it addresses both environmental economic concerns.



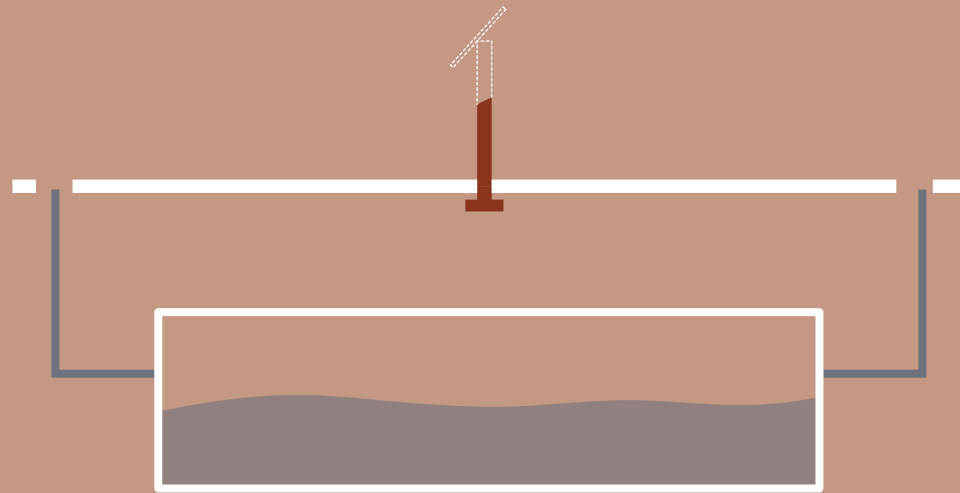
Images (top to bottom): Migrants illegally crossing the border - Pedro Pardo / AFP; Maquiladora in Tijuana - WGNO; Bones of starved livestock on dry ground - Image: Gary Coronado / Los Angeles Times



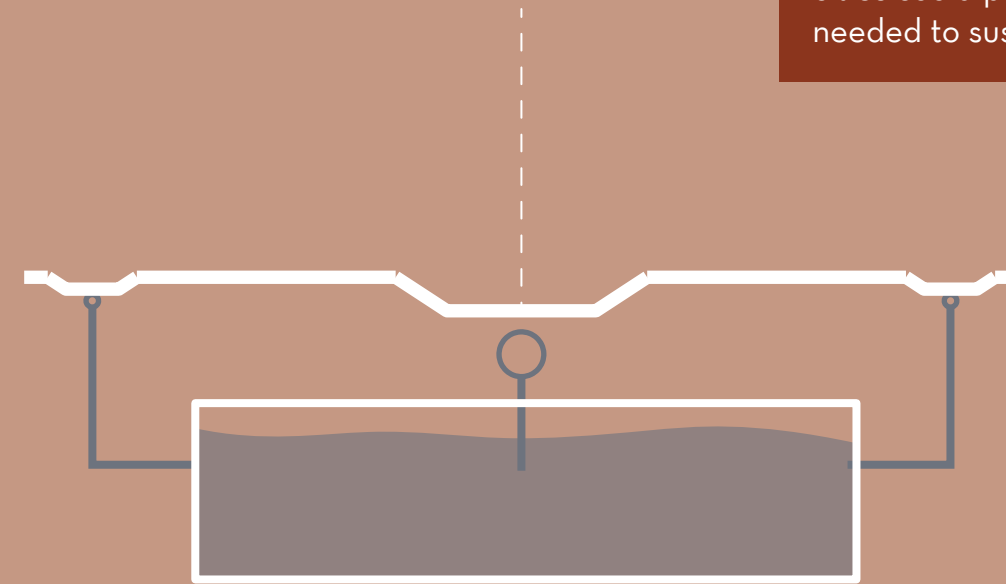
Dismantling the border wall and implementing bioswales are the first steps in this proposal to address the issue of flooding in Ambos Nogales. Bioswales will work in conjunction with an updated storm water drainage system to assist with storm water runoff.⁷ The proposal includes bioswales of varying sizes, the largest of which is located at the border site and subsequent ones reducing in size as they move further from the central axis.

Ambos Nogales' population of 285,000 requires ~15 trillion gallons of water annually⁸

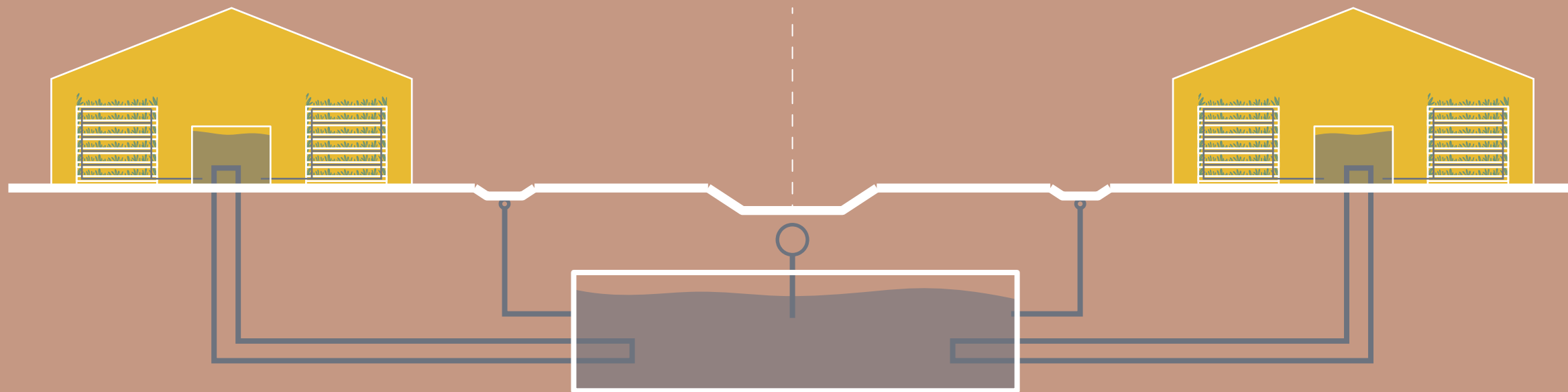
Averaging 14 in of rainfall per year, the cities could provide over 8x the water needed to sustain its residents⁹



Begin dismantling border wall and recycle materials into underground water catchments



Once the wall is fully dismantled, construct bioswales along the border and city streets



Establish aquaponic industry along the border

1 sq mi of aquaponics along the 2.5 mi border in Nogales would provide 1600 acres of new industry and yield 2x the produce needed to sustain the city^{10, 11}

1600 acres of aquaponics would employ 8000 people and produce a profit of \$68 mil per year - 12x that of traditional agriculture sector^{12, 13, 14}







NOTES

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