



RESEARCH TEAM: Integrated approaches to poverty and sustainability (Laurales Canyon, Mexico, and other cases)

Grand Challenge: Planning for Sustainable Human Settlements

Key Terms:

Bi-national approach, sustainable development, community collaboration, conservation initiatives, globalized pressures

Student Leader: Cory Keen

Student Members:

- Cory Keen - Ecotourism in the Baja California Peninsula
- Kristi McCarthy - Collaboration for Cross-Border Sustainability
- Polonia Majas - The Life-Cycle of Used Tires within the San Diego-Tijuana Region: Demonstrating Environmental Degradation

Mentor(s) Leader:

- Oscar Romo
- Hiram Sarabia-Ramirez

Research Team Narrative:

In recent decades, rapid and mostly unplanned growth along the US-Mexico border region has led to the degradation of natural resources and ecosystems (e.g., through contamination of air, water and land, loss of habitat and biodiversity) as well as the deterioration of public health and quality of life (EPA 2007). The San Diego-Tijuana Coastal City Region faces important sustainability challenges that are magnified by the region's growth rate, of economic resources (in the case of Mexico) and looming climate change (Pezzoli and Sarabia 2006).

Although the border separates two vastly different countries and cultures, the ecological domain transcends the border creating the need for a binational approach towards sustainability (Sarabia 2007). The following Student Research Projects (SRPs) stress the necessity of implementing sustainable solutions on both sides of the border that recognize that communities along the U.S.-Mexico border are intimately linked through natural flows of water, air, migratory species but also of people, capital, wastes and even ideas. These projects highlight how actions in one country can have unintended consequences in the other. These SRPs examined sustainability issues associated with unplanned communities along the U.S.-Mexico border, cross-border flows and lifecycles of wastes and massive tourism development in the border region and beyond.

Kristi McCarthy

My SRP entitled “Collaboration for a Binational Sustainable Approach,” shows that sustainable development encompasses cultural, scientific and social aspects of development. My research shows that cross-border collaboration is the key to sustainable development, especially in the San Diego-Tijuana city region. I worked alongside Oscar Romo who heads the Tijuana River Estuarine National Research Reserve’s Coastal Training Program assisting him in the implementation of a pervious pavers project.

The pervious pavers project is intended to be a sustainable solution for erosion control along the U.S-Mexico border. Currently, erosion is not only destroying the community of San Bernardo in Tijuana, Mexico, but it is also threatening the health of a crucial wetland, the Tijuana Estuary located in Imperial Beach (Sarabia 2007). The Tijuana Estuary receives cross-border flows of eroded sediment, debris and contaminants originating in Mexico. In my research, I found that effective science communication is essential for securing funding, obtaining support from a wide-range of stakeholders and encouraging community participation. My research also suggests that to achieve effective science communication, a “Catalyst Communicator” is required, and in the case of pervious pavers project, that catalyst is Oscar Romo. Romo tailors his presentations regarding pervious pavers to the audience. With an in-depth understanding of both the audience and issues, Oscar Romo is able to inspire and encourage participation from residents of San Bernardo, government agencies, researchers, volunteers, students, urban planners, Mexican officials and news media. Although each participant may have a different vested interest, it is safe to say that everyone brings a unique and important contribution to the project and all aim to improve health whether it is the health of their families or the health of the estuary and coast. The pervious pavers projects is an excellent model that exemplifies the critical role of effective communication in facilitating diverse binational collaborations to promote sustainability.

Polonia Majas

My project is entitled “The life cycle of used tires within the San Diego-Tijuana border region.” Through my research, I examined sustainability issues dealing with cross-border flows of wastes. I found that lenient regulations and un-enforced laws allow for opportunistic tire businesses on both sides of the border to profit from illegal dumping of waste tires throughout the San Diego-Tijuana region. “Mexican demand for American used tires generates a steady flow of used tires from the United States into the border

region” (Blackman 2002). In Tijuana, tires that are no longer suitable for vehicular use often end up deposited or inappropriately assembled for uses such as retaining walls, stairways, and other temporary structures on unstable hillsides in Tijuana, Mexico. Also, these waste tires are often transported back into the U.S. through naturally occurring flows via the Tijuana River National Estuarine Reserve affecting sensitive biological and ecological resources. While many used and waste tires originated from San Diego, a large supply illegally entered Tijuana through the both the Otay and San Ysidro international border crossings. The current methods used for tracking used/waste tires in the State of California are not effective. Additional regulations along the border region are necessary in order to deter illegal dumping. Local, State and Federal agencies will continue to spend millions of dollars for cleanup efforts along the border region and degradation of the environment will continue until an effective program is in place addressing the present lifecycle of used/waste tires at a binational level.

Cory Keen

My project, “Ecotourism in the Baja California Peninsula: Alternatives to Environmentally Degrading forms of Tourism” points out the need for binational efforts to reduce or eliminate forms of tourism that result in environmental degradation and impact the quality of life of communities in undeveloped areas of Baja California. With increased growth of urban centers along the border and travel of foreigners into the Baja California Peninsula also come strong development pressures and unwanted environmental and quality of life changes. “Pristine beaches and wilderness areas are polluted, fragile ecologies are damaged by waste dump sites, and cultural buildings are bulldozed to make way for these cookie-cutter resorts” (Herzog 2000). A proposed alternative to environmentally degrading types of tourism that often result from conventional large-scale coastal developments in Baja is ecotourism. Such alternatives are made possible through the use of NGOs, conservation groups and other organizations that promote grassroots cooperative work with local communities and rethink the coastal landscape. Wildcoast’s framing techniques and strategies were found to have led to successful conservation efforts in the San Ignacio lagoon. Wildcoast joined forces with local organizations and community members to form the Laguna San Ignacio Conservation Alliance (LSICA) to provide alternatives that allow for sustainable development and conservation while generating income for local residents. Success stories such as the LSICA demonstrate that ecotourism is a viable environmental and economic alternative to ensure that the more southern, undeveloped coastal span of the Baja California peninsula does not experience the same unfortunate fate as much of the Northern Baja California Coast stretching from Tijuana to Ensenada. Serge Dedina of Wildcoast who led these efforts describes Baja, as “being up for sale and the Santa Rosalita marina is proof that change is coming quickly and sadly most of that change and coastal destruction is and will be financed by U.S. investors, corporations and developers.” As, wild open spaces become more and more rare across the world, it is increasingly important for NGOs like Wildcoast to work with rural communities to implement sustainable tourism practices that that bring economic growth opportunities while ensuring environmental protection, health, and justice.

All three of these projects dealing with planning for sustainable settlements along the U.S.-Mexico border highlight fundamental sustainability issues. The findings of these projects indicate a need for greater emphasis on effective communication, community

participation, crossborder collaboration, enforcement of regulations and development of more effective laws and policies concerning development and management of wastes that recognize cross-border influences and flows. Also, the findings of these SRPs, indicate that the most effective solutions to sustainability challenges along the U.S.-Mexico border are those that incorporate technology with participatory approaches that recognize the importance of legal, political and economic drivers, culture, collaboration and communication. This area of study promises to continue to offer rich and rewarding field experiences for future student researchers.

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Links:

1. The Tijuana River Estuarine National Research Reserve

Available at: <http://www.nerrs.noaa.gov/TijuanaRiver/>

2. Wildcoast/ Costasalvaje National Research Team

Available at:

http://www.wildcoast.net/site/index.php?option=com_content&task=view&id=257&Itemid=0

3. Environmental Issues Along the U.S.-Mexico Border

Available at: <http://www.epa.gov/border2012/issues.html>

4. U.S.-Mexico Border 2012 Plan

Available at: <http://www.epa.gov/border2012/issues.html>

5. Blurred Borders: Transboundary Issues and Solutions in the San Diego/ Tijuana Border Region

Available at:

<http://www.icfdn.org/publications/blurredborders/documents/Blurred-KiyRemarks3-23-04.pdf>