

Enhancing the Civic Capacity of Environmental Justice Communities: The Case Study of Farmworkers in Oxnard, California

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Abstract: The Environmental Protection Agency (EPA) defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” However, many affected populations do not have the civic capacity to be informed and engaged on behalf of environmental health and well-being in their communities. Researchers, community organizations and policy makers can identify ways to enhance the civic resources, knowledge and input channels for impacted communities. In a study of Oxnard, a city in California with a large agricultural economy, researchers conducted survey research and content analysis of local media to determine why and how affected stakeholders are (under)engaged on environmental health issues. The study found that there was a general perception among Oxnard residents that they were at risk for exposure to environmental pollution. There was also a severe lack of information and opportunities for involvement on environmental issues in the community. However, there are ways to enhance to the civic capacity of environmental justice communities like Oxnard by maximizing the use of local media outlets, particularly ethnic radio.

Key words: environmental issues; sustainability; urban health; technology and society

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1. Introduction and Significance

Grassroots organizations, community activists, and social justice advocates successfully campaigned to place environmental justice on the political agenda in the 1990s. In 1994 President Bill Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to ensure non-discriminatory enforcement of federal environmental protections. The directive calls for the “the collection of data on low-income and minority populations who may be disproportionately at risk... (and) it also encourages participation of the affected communities in the various phases of assessing impact.” However, environmental justice cannot be left to the sole initiative and prerogative of the government. In communities plagued by environmental problems and risks, all vested stakeholders—affected populations, public officials, regulatory agencies and local leaders—must be engaged to effectively promote environmental justice.

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Oxnard, a city in California with a large agricultural sector, and its residents are exposed and impacted by environmental pollution due to the use of pesticides and other farming-related chemicals. Thus, affected populations in Oxnard must have the civic resources, knowledge and avenues for input to promote environmental justice. The purpose of this paper is to provide recommendations to enhance the civic capacity of environmental justice communities by using Oxnard as a case study. Enhancing the civic capacity of a community must involve two components: (1) identifying the civic needs of the affected populations, and (2) providing concrete ways for environmental justice communities to promote public awareness and advocacy on behalf of environmental health. The civic needs of Oxnard residents were identified through qualitative surveys to gauge public perceptions regarding environmental risks and civic engagement opportunities. Content analyses of the top two Spanish radio stations in Oxnard were conducted to determine if local ethnic media outlets could be better utilized to enhance the civic capacity of farm worker communities by providing an avenue for public education and advocacy on behalf of environmental health and well-being.

2. Environmental Justice in Low-Income, Minority Communities

The Oxnard population of 197,899 is 73.5% Latino, has a per capita income 30% less than the state average and has a college education attainment level half of California's median (U.S. Census Bureau, 2010). Agriculture constitutes a significant portion of Oxnard's economy, generating more than \$1.8 billion dollars in 2010 (Ventura County Agricultural Commission, 2011). With a large Spanish-speaking and immigrant population, Oxnard residents face many of the common barriers to civic engagement. Its economic base also makes the city and its residents more likely to be exposed to pesticides and other farming-related chemicals. When marginalized populations suffer from environmental justice, they often face three primary challenges: identifying their needs, overcoming barriers to civic engagement, and building the capacity to influence decision-making.

2.1 Identifying the Needs of Environmental Justice Communities

The targeted populations for this study are farm workers, their families and other residents in Oxnard, Ventura County. Given their exposure to the agricultural industry and its byproducts, Oxnard community members must have an understanding of how pollution from farming impacts their quality of life. Several studies indicate that Latinos suffer from significant environmental pollution and related health problems. A 2004 report by the NRDC found that 88 percent of agricultural workers in the United States are Latinos, and most reside in Western states including California. Given their regular exposure to pesticides and other chemicals, farm workers and their families are at greater risk for lymphoma, prostate cancer, childhood cancers and poisoning from arsenic and lead. More specifically, Latino farm workers in California were found to have a 59 to 69 percent greater risk of stomach, cervical, and uterine cancer, and different forms of leukemia compared with other Latinos in the state (Quintaro-Somaini & Quirindongo, 2004).

The children of Latino farm workers often suffer from dangerous levels of pesticide exposure because they "can be exposed at school and on playgrounds located near farms, which become contaminated with pesticides drifting from the fields; and at home through contact with their parents' clothes, from dust tracked into the house, from contaminated soil in play areas, from food brought directly from the fields to the table, and from contaminated well water" (Quintaro-Somaini & Quirindongo, 2004). The families of farm workers including fetuses suffer from the health effects of pollution exposure including impaired neurological functions, memory lapses, still births, birth defects and abnormalities of the lung, ear, musculoskeletal system and urigenital system

(Quintaro-Somaini & Quirindongo, 2004).

A study by researchers at the California Institute of Rural Studies in 2003 offers specific data relating to the environmental health threats faced by Oxnard farm workers and other community members because chemicals are widely and frequently used on farm lands which constitute one-third of Ventura County's land mass. More specifically, fertilizer is used on 83 percent of crop land, 66 percent of the land is treated with insecticides, herbicides are used on 55 percent of the land to control for unwanted weeds, grass and brush, and 40 percent of the land is sprayed for disease control (Schroeder et al., 2003).

The occupational and living conditions in Oxnard make a compelling case that the community faces serious pollution and related health problems. To promote environmental justice in impacted communities, there must be an understanding of the barriers affected populations face and ways to enhance their civic capacity.

2.2 Barriers for Environmental Justice Communities

Many studies have examined the various components of civic engagement including the role of institutional settings (context of opportunities), cultural attributes (civic values), developmental processes (socializing agents), and resources (social capital and efficacy) in promoting public discourse and activism (McBride, Sherraden & Pritzker, 2004). Unfortunately, there are often intervening variables or mediators that obstruct or hinder a person's (or population's) ability to be engaged in pertinent issues affecting the quality of life in their communities. In a study of civic engagement among low-income families, researchers identified inflexible work schedules, lack of structured opportunities and physical space, social isolation, family obligations, transportation and discrimination as the most common reasons that respondents provided for not being civically engaged or not engaged at the level they desired (McBride, Sherraden and Pritzker, 2004).

Like other low-income populations, environmental justice communities often live and work in conditions that are not conducive to cultivating public awareness or civic engagement due to socioeconomic factors, cultural and linguistic barriers, and immigration status. For example, socioeconomic factors can prevent or reduce the likelihood that affected populations will come into contact with health care professionals who can diagnose environmental related illnesses. One study found that "poor children were more likely to have routine and sick care in a neighborhood health center and hospital-based clinic and were less likely to receive care in a doctor's office...(while) black children were twice as likely as white children to use the emergency room as their primary source of care" (Gwynn and Thurston, 2001). Thus, disparities in access to health care can affect a population's ability to be educated about and be treated for environmental health threats. Civic engagement and environmental justice are difficult to achieve if there is lack of awareness or willingness to link pollution to health problems.

Linguistic and cultural barriers can also hinder public awareness and civic engagement. In Ventura County, Mixtecos and other indigenous language Mexicans make up a significant segment of the Oxnard population (20%) but are culturally and linguistically distinct from Spanish-speaking Mexicans (Schroeder et al., 2003). There is a lack of trained and legally documented community organizers, labor contractors and health workers (promotoras de salud) who speak and can translate indigenous languages to provide information about environmental health risks. Fortunately, community organizations have been established to respond to the special needs of indigenous Mexican populations in Oxnard such as Mixteco/Indigena Community Organizing Project (MICOP). However, MICOP and similar community organizations often focus on the delivery of social and human services rather than promoting the civic engagement of the targeted populations.

Immigration status is a factor that significantly affects the propensity for civic engagement because undocumented workers and residents cannot access most publicly funded civic programs and many

education-based volunteering opportunities (Flanagan & Levinson, 2010, p. 164). Many farm workers fear deportation and/or retribution by employers; thereby, hindering their public awareness and advocacy efforts on environmental issues. As a result, undocumented workers and residents in farming communities like Oxnard are often reluctant to report, complain about or seek treatment for ailments related to poor work conditions or pesticide use in agricultural fields.

However, policies and programs can be designed to mitigate civic engagement obstacles for undocumented populations in two ways—enhancing the civic capacity of individuals and providing opportunities for sustained civic activities. Individual civic capacity consists of the skills, knowledge and beliefs that foster engagement. Institutionalized opportunities for community involvement can be designed and implemented to take into account some of the challenges faced by undocumented populations. For instance, civic activities should be designed to specifically target non-college and undocumented youth who may not be able to participate in school-based opportunities or civic activities that require legal residency status for participation.

Higher education institutions have become one of the primary venues for youth civic engagement but those not attending college are left underserved and underrepresented. Recent legislation has sought to address this problem including the federal DREAM Act and similar state-level initiatives that allow undocumented students to receive public financial aid to attend public colleges and universities. Passage of the national bill would open up opportunities for undocumented college students to acquire and apply civic skills in school-based service and volunteer programs.

Local governance institutions could also be more accessible to community members who are ineligible to participate due to their immigration status. For examples, Los Angeles established a system of neighborhood councils to empower residents to shape local decision-making through budget recommendations and community impact statements. Community stakeholders—defined as anyone over the age of 18 who lives, works and/or owns property in the community—can participate in the neighborhood council regardless of their immigration status. Most neighborhood council activities occur in the evenings and weekends to accommodate the work and school schedules of stakeholders. Community and local advisory boards can provide undocumented workers and residents the opportunity to develop their civic skills, and apply their civic skills to address social problems in their communities such as environmental pollution.

2.3 Building Civic Capacity in Affected Populations

Environmental injustices have resulted in increasing efforts by affected populations, activists, scholars and policy makers to promote public awareness, community input and social change through advocacy. Community-based participatory research (CBPR), in particular, has emerged “as a tool for studying and addressing urban environmental health problems... (with) the participation of those affected by the issue for the purposes of education and action or effecting change” (Minkler et al., 2010). In their study of environmental justice in San Diego’s Old Town district, researchers found that the Environmental Health Coalition (EHC) effectively used the skills of trained researchers, professional community organizers and community residents to foster community building, organizing and advocacy in a town that “has for decades been treated by planners as a dumping ground for polluting industry and warehouses” (Minkler et al., 2010). Community members were trained to be community health workers (*promotoras de salud*) in order to raise public awareness about environmental health problems, and to serve as a channel for voicing the concerns of the affected population.

Community involvement in the planning and implementation of public health initiatives has increasingly become the desired norm rather than the exception; therefore, it is essential to understand the strategies that help

engage affected populations. For instance, Allies Against Asthma coalition partners identified and employed seven key strategies to cultivate community engagement: (1) visible and sustainable community involvement; (2) building community trust; (3) feasible and safe avenues for participation; (4) identification and responsiveness to community-driven concerns; (5) leadership development within the community; (6) establishing a shared vision; and (7) community health workers as a link to the community (Peterson et al., 2006).

However, cultivating community involvement is particularly difficult in a low-income, immigrant community that may not have an extensive network of grassroots organizations, financial and logistical assets, or institutionalized opportunities for civic engagement. In the absence of organized activities, underserved and underrepresented communities can foster a sense of community through neighboring behavior that includes “the social interaction, the symbolic interaction, and the attachment of individuals with people living around them...such as borrowing tools, informal visiting, asking for help in an emergency” (Bolland and McCallum, 2002). Marginalized communities can also find ways to enhance their social capital and leverage resources by identifying viable partners with shared visions and complementary skills and expertise.

To be effective promoters of environmental justice, community activists must produce or have access to empirical data and integrate the findings into their advocacy efforts. For instance, the EHC’s in-house researchers used geographic imaging systems (GIS) mapping to visually illustrate environmental problems while the personal narratives or stories of community members were used to advocate for policy change (Minkler et al., 2010). However, environmental justice communities often lack the technical expertise to produce or the resources to acquire scientific data to support their environmental health concerns. One way to reduce or mitigate this problem is for community organizations or members to establish partnerships with academic institutions.

Academics are professionally trained researchers who have the expertise and resources to design, implement and produce research findings that support the advocacy efforts of affected communities. For example, WE ACT is an organization that uses community-based action to promote environmental health policy, public health and quality of life in Harlem, New York. One of WE ACT’s partnership programs, Earth Crew, participated in a study of diesel exhaust emissions under the guidance of epidemiologists from Columbia University who designed the project and provided training, oversight and mentoring in the field to Earth Crew members (Vasquez, Minkler & Shepard, 2006). University-community collaborations benefit community organizations that lack in-house researchers, and academics benefit by applying their skills to address real world problems.

3. Methodology and Findings

The data for this study was generated by a qualitative survey distributed to Oxnard community members, and content analyses of two well-known Spanish radio stations in Oxnard. The survey was used to assess: (1) public perception of environmental exposure and risk; (2) opportunities for public awareness and community involvement in environmental issues; and (3) obstacles to meaningful civic engagement by the affected populations. The survey respondents were asked questions based on five categories: demographics, employment history, environmental conditions in their communities, and community awareness and involvement. 202 surveys were distributed and collected at three public events that would attract a representative sampling of Oxnard community members: a flea market, farmer’s market, and cultural festival.

The majority of survey respondents were Latino (92%) and female (64%), and a large proportion of them were between the ages of 18 and 34 (58%). More than half of them had children (71%), particularly children

under the age of 12 (82%). 20% of the respondents reported that they lived or worked near an area where crops are grown and 53% lived in homes where only Spanish is spoken. More than one-third of the respondents (44%) worked in agriculture, primarily picking or harvesting crops (58%). 40% reported being exposed to chemicals used to protect crops while working in the fields but only 5 of the 202 respondents could specify the names of the products used.

Even though 70% of respondents expressed concern about the safety of water and air in their communities, 81% were not aware of any case when the government or a regulatory agency has tried to clean up pollution. This is disconcerting given the population's proximity to farms and their occupational exposure to farming pesticides. More importantly, 56% of the participants believe that nearby industries like farms do negatively impact air and water quality. The surveys indicate that there is a degree of awareness by the Oxnard public that they are likely exposed to pollution due to the agricultural industry despite the (perceived) absence of governmental enforcement or regulation of environmental standards.

The surveys revealed troubling findings about the overall level of community engagement on environmental issues in Oxnard. 89% of respondents were not aware of events or meetings about water or air quality in their communities, and only 5% reported involvement in a community group, neighborhood association and/or civic organization including churches. Only four participants had spoken to a public official about environmental conditions in the community even though 54% believe that poor water and air quality have negatively impacted their health. Of those who believe that environmental conditions have a negative impact on health, allergies (26%) and asthma (14%) were the most cited. Thus, the surveys indicate that *Oxnard stakeholders lack engagement, concrete health information and opportunities for action when it comes to environmental conditions in their communities.*

There was a strong belief among three-quarters of the respondents (74%) that differences in water and air quality exist among communities based on the income and educational levels of populations. Thus, a strong perception exists among survey respondents that there are health and quality of life disparities between their communities and more affluent areas. When asked to rank order community issues that they follow, 52% reported that health was their primary concern followed by crime (32%), the environment (11%) and politics/legislation (8%). Spanish television and radio were the most popular ways the survey participants received their news and information about community issues, 62% and 43% respectively.

3.1 Spanish Radio as a Potential Channel for Civic Engagement

Based on the survey results, a qualitative content analysis of Spanish-speaking radio in Oxnard was conducted to assess its potential as a channel for civic engagement. Communicating with the Spanish-speaking community in Oxnard, many of whom are farm workers, through Spanish radio eliminates language barriers, alleviates mistrust and reduces fear of retribution or deportation. Spanish radio is the main source from which 44% of the survey respondents are informed about community issues, and 47% stated that they prefer to receive information about community issues via radio. 60% of Spanish radio listeners from the surveys tune to Radio Lazer 102.9 FM and 20% listen to La "M" 103.7 FM. Since Radio Lazer and La "M" are the primary radio stations consumed by Spanish-speaking residents in Oxnard, they were selected for content analysis.

Approximately 28 hours of radio broadcasts were recorded from each of the top two Mexican Regional format radio stations in Oxnard and Ventura—KXLM-FM Radio Lazer 102.9 or Radio Lazer and KMLA La M 103.7 FM or La M (Arbitron, 2012). The stations were selected not only based on rankings but also because their target audiences include the 90% of Ventura County farm workers that are of Mexican descent. Each radio station

also has programs that implemented talk radio and news formats that allowed for community-relevant programming. Broadcast from Radio Lazer was recorded during *Tribunal Lazer con Salvador Prieto* from 9:00 a.m. to 10:00 a.m., and La M's *El Show de la M* from 6:00 a.m. to 7:00 a.m.

Approximately 60 minutes of broadcast audio was captured directly from each radio station's live Internet stream everyday on December 13 to 19, 2011 and January 17 to 23, 2012. This yielded approximately 27 hours and 45 minutes of high quality audio recording. Using the audio recording software Audacity, broadcasts for Radio Lazer was recorded directly from <http://radiolazer1029.com/>; La M from <http://www.lam1037.com/>.

A coding system was developed along the way to achieve three things: (1) study programming format to identify typical content and airtime allocations; (2) identify themes in content with particular interest in health, environmental and local topics relevant to farm workers; and (3) determine the amount of public participation, particularly of farm workers, in the content. Seconds were counted to account for the amount of time dedicated to particular categories of content. Anchor reads, news, call-ins, interviews, ads, promos, and other elements that mentioned health, environmental and local topics relevant to Oxnard and Ventura County were flagged. Call-ins and in-studio interviews were studied to measure audience participation in relevant topics. The total time for each category was divided by the total number of seconds for the complete data set to calculate for percentage.

4. Radio Lazer

Recordings of Radio Lazer on weekdays from 9:00 a.m. to 10:00 a.m. captured a portion of the show called, *Tribunal Lazer con Salvador Prieto*. While the content of the recorded weekday program was dominated by music at 38.02% and ads at 20.92%, spoken content was comprised of 19.90% banter and discussions, 17.22% listener calls, 2.43% contests and promotions, and 1.52% news reporting (see Table 1).

Tribunal Lazer was a segment of the show where host Salvador Prieto introduced a topic and encouraged listeners to call the radio station to join the discussion. Most topics during the data collection period were about family matters and relationships. Some subject examples included: whether wives should stay at home and allow their husbands to work while they raised the children; inconvenient family visits especially during the holidays; and how men should be more emotionally expressive.

Callers were provided significant amounts of time to present their thoughts on the issues, and the host asked follow-up questions during the calls to further the discussion. During the phone-in portions, the show's orientation towards its predominantly immigrant listeners was easily observed. The hosts and the callers referenced their cultural backgrounds as they presented their positions about the topics. During a *Tribunal Lazer* conversation about family members visiting over the holidays, callers uttered the statements "*Cuando yo estaba en México...*" (When I was in Mexico...) and "*Yo estoy solo acá en Estados Unidos*" (I'm alone here in the United States).

Table 1 Content Allocation of Radio Lazer

Content	Weekday		Saturday		Sunday		All Week	
Music	13349	38.02%	5335	71.63%	33	0.46%	18717	37.66%
Banter	6988	19.90%	921	12.37%	3393	47.49%	11302	22.74%
Ads	7344	20.92%	1071	14.38%	3719	52.05%	12134	24.41%
Calls	6045	17.22%	0	0%	0	0%	6045	12.16%
Promos	852	2.43%	121	1.62%	0	0%	973	1.96%
News	533	1.52%	0	0%	0	0%	533	1.07%
Total	35111	100%	7448	100%	7145	100%	49704	100%

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Radio Lazer also engaged in news reporting, both formal and informal, during its weekday shows. News was comprised of a mix of California news (0.48%), US news (0.30%), world news (0.09%), world Latino news (0.06%), Latino sports (0.32%), and health (0.29%) (see Table 2). Radio Lazer provided formal news reports in only five of the 10 weekday recordings, and the amount of news stories each day was inconsistent and ranged from three to six. Topics also varied, but California news was always reported at every instance.

Radio Lazer's local news covered topics at the state-level or about other California cities but none specific to Oxnard or Ventura County. California issues reported included: state cuts to budgets for universities, schools and state prisons; reduced fatalities to drunk driving during the holidays; a closure of the 60 Freeway resulting from a truck explosion; and a program in San Diego that exchanges fire arms for gift certificates to discouraging firing guns during New Year celebrations.

Examples of US news topics included Occupy Wall Street and Iowa legislation looking for a middle ground for policy on undocumented immigrants. Only one piece of World news was reported about President Obama sending humanitarian assistance to the Philippines that was hit by typhoons. World Latino news was about Mexican drug lord Chapo Guzman's nephew being murdered in Mexico; Latino sports news provided an update on Mexican soccer; and Health news covered how increasing apple consumption can help lower cholesterol. Formal news reporting was complemented by informal news discussions incorporated in banter by host Salvador Prieto. During these portions, Prieto cited stories from sources like the Los Angeles Times and the New York Times. Topics he discussed included how a Fresno mother killed her family after smoking methamphetamine, and that famed boxer Muhammad Ali turned 70-years-old.

Table 2 Radio Lazer News Reporting During Weekdays

News Topic	Seconds	Percentage
California (Local)	167	0.48%
US	104	0.30%
World	30	0.09%
World Latino	20	0.06%
Latino sports	111	0.32%
Health	101	0.29%
Total	533	1.52%

Other weekday content was comprised of a segment called *El Vox de Sinaloa*. The segment, coded as banter, aired only once during the data capture period, and Mr. Sinaloa provided an opinion piece about bad referee calls during a recent soccer match. Another element was listener calls to request songs and to greet family and friends.

Saturday programming on Radio Lazer was still hosted by Salvador Prieto but had fewer elements than the weekdays. Only four main pieces comprised Saturday content: music (71.63%), ads (14.38%), banter (12.37%), and contests and promotions (1.62%) (see Table 1). There was 0% news reporting during Saturdays, and most banter was comprised of listener greetings, a call-in joke, and trivial discussions. On one Saturday, the host told the story about the owner of a Cincinnati restaurant being ordered by the local government to remove his storefront mannequin regarded by some community members as offensive or even obscene. On another Saturday, Prieto talked about interpreting dreams.

Sunday content was comprised of 52.05% ads, 47.49% banter, and 0.46% music (see Table 1). No news reporting and listener calls were included in Sunday programming. The spoken content was dominated by

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in-studio guests, most of whom were high profile figures from Oxnard and Ventura County. Topics during the community-oriented shows focused on locally relevant topics, and discussions were uninterrupted by ads or station ID's.

On one Sunday, two types of community programs were featured on Radio Lazer. One was hosted by Alicia Llinas and featured Mexican Consul Matus to discuss traditional Mexican dolls, masks and other art forms. The discussion began prior to the start of the recording and continued without ads or station ID interruptions for three minutes during the recorded hour. The other program, *La Salud es Primera*, featured Dr. Gonzalez taking about health issues often experienced during the holidays such as depression, compromised diets, bingeing and moral hangovers, and diabetes. This piece ran, also uninterrupted, for 24 minutes straight. During the other Sunday recording, Alicia Llinas hosted both Father Roberto Saldivar, pastor of the Our Lady of Guadalupe Church in Oxnard, and renowned Mexican artist Lalo Garcia. The discussion was about the completion of the church renovation and how Garcia's art will be placed in the new church. The piece ran continuously for more than 28 minutes.

The total data set showed that Radio Lazer's weekly programming consisted of 37.66% music, 24.41% ads, 22.74% banter, 12.16% listener calls, 1.96% contests and promotions, and 1.07% news (see Table 1).

5. La M

La M weekday recordings from 6:00 a.m. to 7:00 a.m. captured one hour of *El Nuevo Show de la M* hosted by Aluche and Camarena. The overall data captured during Monday to Friday showed that content was comprised of 54.97% music, 14.75% ads, 14.06% banter, 5.28% horoscope, 4.19% contests and promotions, 4.10% news reporting, and 2.65% listener calls (see Table 3). Spoken content was dominated by banter that included: station ID's; time announcements; greetings to listeners including working people, bakers, and workers at nurseries; and host-led discussions about a multitude of topics such as superstitions, Chinese horoscopes, popular Latino entertainers, Hollywood celebrities, and heart conditions preventing intimate relations.

The station also dedicated airtime to readings of Western horoscopes broken up into two or three segments throughout the hour. Listener calls were mostly comprised of song requests, greetings, and commendations of the radio station. Contests and promotions included ticket giveaways to Disneyland, a station-sponsored holiday event or *posada* at *Mariscos El Campeon*, and a show with Pancho Barraza at *Casa Lopez*. In addition, the station aired remote broadcasts by station staff members Vero and Lissette from various Ventura County workplaces, including the Rancho Santa Paula Berry Farm, where they gave away coffee and donuts sponsored by station advertisers. La M also gave away music CDs by popular Latino musicians like *Inquietos del Norte*.

Table 3 Content Allocation of La M

Content	Weekday		Saturday		Sunday		All Week	
Music	19737	54.97%	4756	66.69%	4446	61.88%	28939	57.62%
Banter	5050	14.06%	1338	18.76%	2057	28.63%	8445	16.82%
Ads	5295	14.75%	579	8.12%	682	9.49%	6556	13.05%
Calls	951	2.65%	415	5.82%	0	0%	1366	2.72%
Promos	1505	4.19%	43	0.60%	0	0%	1548	3.08%
Horo-scope	1896	5.28%	0	0%	0	0%	1896	3.78%
News	1472	4.10%	0	0%	0	0%	1472	2.93%
Total	35906	100%	7131	100%	7185	100%	50222	100%

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Weekday news reporting by La M was characterized by a combination of local news (1.48%), US news (1.02%), world news (0.14%), US sports (0.09%), Latino sports (0.24%), world sports (0.15%), US entertainment (0.19%), Latino entertainment (0.53%), health news (0.13%), and miscellaneous news (0.12%) (see Table 4). Every day, La M usually reported two news stories that were local to Ventura County. Some topics included: Occupy Port Hueneme; budgetary cuts on Ventura County community colleges; funding secured for the preservation of the Buenaventura Mission; a fire in Thousand Oaks; a gang-related homicide in the city; and a free cancer information session in Ventura.

At least one US news story was reported each day, including: President Obama’s visit to Fort Bragg; legislation that will deport migrant parents; Santorum beating Romney in Iowa; the scheduled State of the Union address by President Obama; and narcotics trafficking from Mexico into the US. Only two world news stories were reported during the data capture period—one about the Palestinian region joining the UNESCO, and another about Kim Jong Il’s death.

Sports were also frequently reported in La M’s broadcast, and topics included: the San Diego Chargers beating the Baltimore Ravens; the World Cup game between Monterrey and Kashiwa Resyol; both Nadal and Federer winning tennis matches in Australia; and the Atlante vs. Pueblo Mexican soccer match. Newscasts involving both US and Latino entertainers were also made, including: Mexican singer Manuel Mijares’ platinum album sales; Mexican signer Yuri returning to the music scene; the new Alcatraz TV show; and Jennifer Aniston’s allegedly break from show business to start a family. Once during the data capture period, news about health was rendered, focusing on the value of including more grains, fruits and vegetables in a diet to promote health. A news story about mail service during the holidays was also reported during the time frame; this was coded as miscellaneous news.

Table 4 La M News Reporting during Weekdays

News Topic	Seconds	Percentage
Local	533	1.48%
US	366	1.02%
World	52	0.14%
US sports	33	0.09%
Latino sports	86	0.24%
World sports	53	0.15%
Latino entertainment	191	0.53%
US entertainment	69	0.19%
Health	47	0.13%
Miscellaneous	42	0.12%
Total	1472	4.10%

Saturday programming had five elements: music (66.69%), banter (18.76%), ads (8.12%), listener calls (5.82%), and contests and promotions (0.60%) (see Table 3). Most banter during the two Saturday recordings was comprised of hosts Aluche and Camarena greeting and acknowledging their listeners, including the “*toda la raza de Oaxaca y de Guerrero... los que trabajan en la mora*” (people who are from Oaxaca and Guerrero... everyone who works with the berries).

On-air discussions revolved around celebrity gossip—Sophia Vergara, Kobe Bryant’s divorce, Mexican actor

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Eugenio Derbez, and Lucia Mendez posing for Playboy Magazine. Although there was no news reporting, there was also a follow-up discussion on a news piece from the previous week about the death of Mexican drug lord Chapo Guzman's relative. Other trivial topics were talked about including the weather, New Year's plans, swap meets, Black Friday shopping, and Christmas celebrations. Listeners were also active participants in the content calling the station to greet people they work with and to make song requests.

On Sundays, La M dedicated its airtime to 61.88% music, 28.63% banter, and 9.49% ads (see Table 3). While the banter included station ID's, most of it was comprised of a community-based program called *La M con La Comunidad* hosted by Elizabeth Taylor. The show was not interrupted by any ads or station ID's, and featured experts in the topics at hand. During the two Sundays in this data set, the show focused on health topics. On one Sunday, more than 14 minutes of airtime were dedicated to the discussion of Alzheimer's disease. On the other Sunday, more than 15 minutes were dedicated to the health repercussions of smoking and tobacco use. While both health issues were relevant to the overall population, the host and guests clarified the topics' relevance to the Ventura County community. As in the case of tobacco use, the host and guests pointed out that 30% of the Ventura County population consumed tobacco.

Overall, La M's weekly programming was comprised of 57.62% music, 16.82% banter, 13.05% ads, 3.78% horoscope, 3.08% contests and promotions, 2.93% news, and 2.72% listener calls.

Overall, the content from both radio shows were dominated by music, ads and banter that included discussions, host commentaries, song introductions, and station ID's (see Tables 1 and 3). Banter, along with news reporting, provided prime opportunities to discuss or report about health, environmental and local topics, especially during the weekdays. However, while neither Radio Lazer nor La M covered any stories about health impacts of pesticides to farm workers, nor any kind of environmental issue specific to Oxnard or Ventura County, both stations shared similarities in allocation of airtime to overall health topics (see Table 5).

**Table 5 Seconds and Percentages of Airtime Dedicated to Health, Environmental, and Local Topics
in Radio Lazer and La M**

Topic		Health		Environmental		Local		Total Record-ed
Days of Recording	Secs	%	Secs	%	Secs	%	Secs	
Radio Lazer								
Mon-Fri	101	0.29%	0	0%	167	0.48%	35111	
Sat	0	0%	0	0%	0	0%	7448	
Sun	1440	20.15%	0	0%	1892	26.48%	7145	
All Days	1541	3.10%	0	0%	2059	4.14%	49704	
La M								
Mon-Fri	47	0.13%	0	0%	533	1.48%	35906	
Sat	0	0%	0	0%	0	0%	7131	
Sun	1781	24.79%	0	0%	1781	24.79%	7185	
All Days	1828	3.64%	0	0%	2314	4.61%	50222	
Total	3369	3.37%	0	0%	4373	4.38%	99926	

Some health content was existent during Monday to Friday programming via news reporting. For instance, Radio Lazer aired one health news story about the benefits of eating apples to cholesterol levels. This comprised 0.29% of the station's total weekday content. La M had less at 0.13% but reported on two separate health stories—one about a free cancer information workshop in Ventura, and another about the value of including more

grains, fruits and vegetables in the daily diet. No health content was found during Saturday programming, but Radio Lazer's *La Salud es Primera* (Health is First) program and La M's *La M con La Comunidad* (La M with the Community), both broadcasted during Sunday programming, comprised the bulk of health coverage in the total data set. Radio Lazer utilized 20.15% of Sunday airplay on one health discussion about holiday health issues like the "moral hangover" of overeating, depression during the holiday season, and diabetes. La M expended more Sunday airtime on health issues at 24.79%, covering Alzheimer's disease and the ill effects of tobacco use. Altogether, 3.37% of the total weeklong data set from both stations was dedicated to health.

6. Conclusion and Recommendations

Spanish radio is a medium that can mitigate, if not eliminate, some key barriers to civic engagement that Oxnard farm workers face: low levels of education and literacy, lack of financial resources, transportation, work flexibility, fear of employer reprisals, and concerns about immigration status. Radio is an accessible and low-cost, low-risk way for farm workers to learn about environmental health issues and to express their concerns about exposure and risk.

It is clear that the Spanish radio stations analyzed are not serving as a vehicle for public education or community advocacy on behalf of environmental justice. Given the Oxnard population's need to know how to mitigate or prevent environmental health risks, they could turn to local ethnic media to fill the information gap. Content analysis of Radio Lazer and La M programming proved that farm workers and people related to them are already active consumers of, and participants in Spanish-language radio. Radio broadcasts showed that some callers who participated in contests referred to themselves as agricultural workers.

During the La M broadcast on December 19, 2011, when asked by the host where the listener was calling from, the phone-in participant said, "*Aqui trabajando... Aqui (SL)¹ pisando flores.*" (Here working... Here (SL) stomping flowers.) Another caller on the La M show on December 20, 2011 responded to the same question with "*Aquí plantando apio*" (Here planting celery). With the current existence of the communication infrastructure connecting Spanish-language radio to Oxnard and Ventura County farm workers, radio stations can benefit from featuring more stories and discussions about challenges faced by farm workers. The agricultural community in Oxnard, which is exposed to the health and environmental threats of pesticides, actively consumes and participates in Spanish-language radio. Therefore, if stimulated by the medium and provided the proper communication action context, the population can enhance their knowledge of health and environmental issues.

Based on the findings from the surveys and content analyses of local radio, this study leads to two recommendations for enhancing the civic capacity of affected populations. First, local radio stations in environmental justice communities should be encouraged to fulfill their public service programming by providing accurate information about environmental health risks and exposure to their listeners. Community activists should pressure these stations to offer information that is pertinent to the health and well-being of their constituents. Growers and the agribusiness sector would also benefit from public service announcements (PSA) because the segments could include occupational safety protocol for farm workers and ways to mitigate or prevent harmful exposure. Furthermore, the PSAs can clarify misperceptions about pesticide use and their health impacts such as the difference between soluble and non-soluble pesticides. The content analyses of Radio Lazer and La M demonstrate that local radio does effectively engage their listeners through call-ins and other forms of

¹ SL is transcriber code for "Sounds Like".

participation. What is lacking is not community engagement rather specific health content related to farm workers and their families.

Second, regulatory agencies should actively seek out and utilize local media outlets to inform and update affected populations about environmental conditions in their communities. Maximizing the use of various local media is particularly important in areas with a significant number of stakeholders who may have limited or no English proficiency, low educational attainment and/or fears about their immigration or employment status—all of which are common barriers to civic engagement. It is unlikely that pesticides and other farming-related chemicals will be banned from use. Without access to accurate environmental health information, affected populations cannot protect themselves, their families or their communities from harmful risks and exposure.

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