

Clean Air Initiative



Iniciativa de Aire Limpio

CLEAN AIR INITIATIVE

Improving the air quality and health of citizens in Imperial County and the Mexicali border region through education, advocacy, and support.

Community Survey Report Imperial County & Mexicali

August 2003

National Latino Research Center (NLRC)

California State University, San Marcos

Report Author

Sonia Taddy, MPIA
National Latino Research Center
Cal State University San Marcos
760-750-3500 ♦ nlrc@csusm.edu
www.csusm.edu/nlrc



This report was prepared for the **Clean Air Initiative**, a bi-national partnership administered by the American Lung Association of San Diego and Imperial Counties and funded by The California Endowment. The report summarizes the results of a community survey designed to assess community concerns and perceptions regarding air quality issues in the Imperial Valley (California) and Mexicali (Baja, Mexico) border region. For more information about the Clean Air Initiative, contact the American Lung Association at 619-297-3901 or 1-800-LUNG-USA.

TABLE OF CONTENTS

Acknowledgements	3
Introduction	4
Demographics of the Imperial-Mexicali Border Region	5
Survey Methodology & Data Collection Process	7
Participant Demographics	8
Health Status	10
Awareness about Air Pollution	12
Empowerment & Advocacy	15
Summary of Key Findings	16
References & Resources	18

ACKNOWLEDGMENTS

This survey was developed for the Clean Air Initiative. Numerous individuals and organizations provided invaluable expertise and input during the development of this survey. In particular, we would like to thank and acknowledge the following:

Clean Air
Initiative



Iniciativa de
Aire Limpio

American Lung Association of San Diego & Imperial Counties

Jan Cortez, Project Director and V.P. of Research
Rosanna Silva Minnich, Clean Air Initiative Project Coordinator
Lynn Carol, Secretary

Asesoría y Traducciones Corella / International Consulting Firm

A special thanks to Rebeca Corella who provided guidance and coordination for program and survey activities in the Mexicali region.

Fuerza Campesina

The *promotoras* (community health outreach workers) from Fuerza Campesina were charged with the difficult task of interviewing participants. They conducted over 300 interviews on both sides of the border and provided valuable input on survey development and the data collection process. In particular, we would like to thank Mirella Preciado, Hilda Pena, Marylou Silva, Teresa Sandoval, Maricela Solorzano, Adriana Villalpando, and Polina Valdez.

The San Diego Regional Asthma Coalition (SDRAC), Environmental Workgroup

The Clean Air survey was modeled after the SDRAC's Mid-City community survey as part of their "Community Action to Fight Asthma" project. We also benefited from their experience and insights on the protocol training and data collection process.

NLRC Staff

The NLRC would like to thank Dr. Bob Yamashita (NLRC Faculty Associate) for his leadership with survey development, methodology, and data analysis as well as Robin Wright-Parker (database design and analysis), Ana Ardon (translation and data entry), Konane Martinez (data entry and qualitative analysis), Arcela Nunez-Alvarez (protocol training for data collectors), Serena Ruiz (translation of the survey and protocol materials) and Dr. Gerardo Gonzalez (research consultation and report review). The final report was prepared by Sonia Taddy, Associate Director of the National Latino Research Center (NLRC), Cal State University San Marcos.

The California Endowment

The Clean Air Initiative and this survey were funded by The California Endowment.



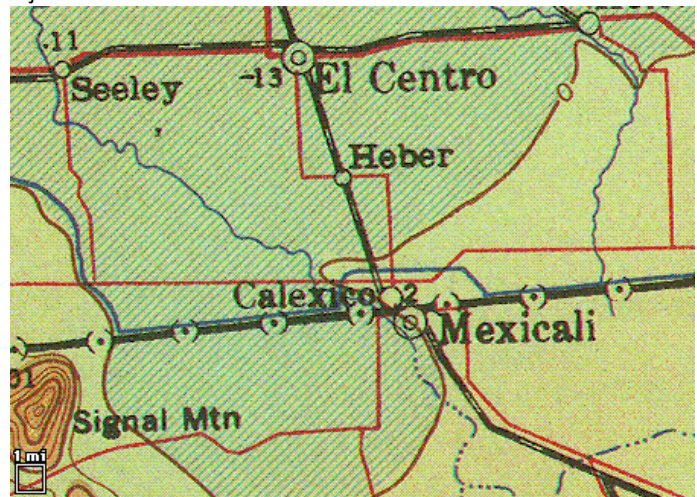


Clean Air Initiative

The purpose of the Clean Air Initiative is to improve the air quality and health of citizens in Imperial County and the Mexicali border region through education, advocacy, and support.

INTRODUCTION

In response to the unhealthy air quality observed in the Imperial Valley and Mexicali border region, concerned individuals and organizations joined forces in 2003 to form the Clean Air Initiative. The coalition constitutes a bi-national partnership to address regional air quality issues and their effects on health. As part of its effort to inform and engage residents in advocating for improved conditions and regulations, the Clean Air Initiative developed a community survey to assess the perceptions and concerns of residents on both sides of the border. This report summarizes the results of the survey.



Air Quality ♦ An Urgent Issue

Imperial County suffers from some of the worst particulate air pollution in California, with some locations measuring more than ten times the maximum allowable federal standard. According to the Environmental Protection Agency (EPA), significant harm to health occurs when the air contains more than 600 micrograms of particulate matter per cubic meter during a 24-hour period. In the Imperial Valley, particulate matter concentrations have been measured at double this level and the County has consistently failed to pass federal and state standards for smog and airborne particulate pollution.¹ Data collected in 1996 indicates that Mexicali has similar air quality problems including measurable levels of particulate matter, carbon monoxide and ozone from sources such as industry, motor vehicles, and cross-border emissions.

Residents on both sides of the border suffer the negative health effects of long term exposure to poor air quality. Children are especially at risk, as are the elderly, asthmatics, heavy outdoor exercisers, and those who have lung or heart disease.² According to state hospitalization data, Imperial County currently has one of the highest childhood asthma hospitalization rates in the state of California.

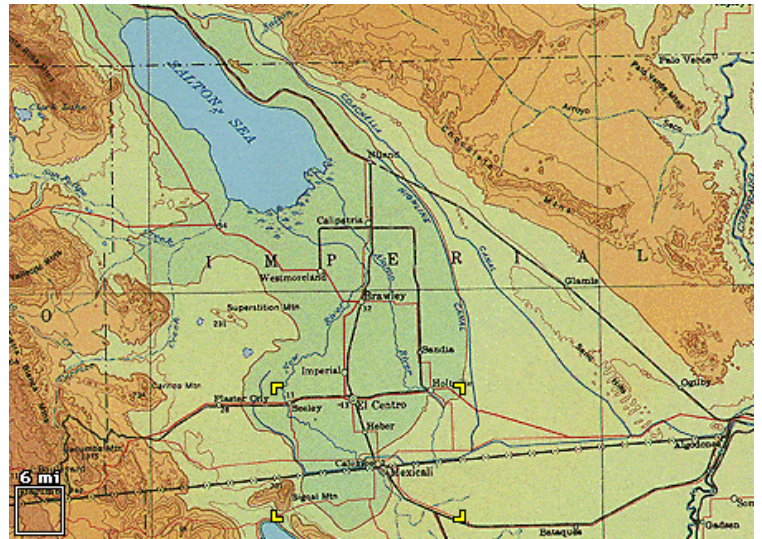
¹ Airborne particulates include soot, soil, dust, metals and other particulates emitted by agricultural operations, industrial facilities, motor vehicles, mines and other sources.

² http://www.lungsandiego.org/environment/article_imperial_mexicali.asp

DEMOGRAPHICS OF THE IMPERIAL-MEXICALI BORDER REGION

This section provides a demographic profile of the border region and highlights important characteristics and differences between Mexicali and the Imperial County communities that border Mexico.

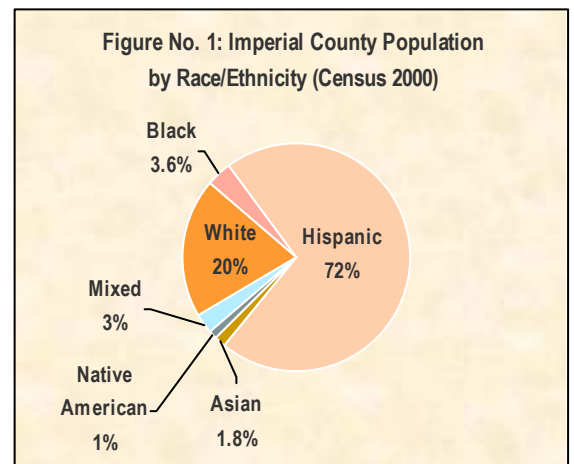
Imperial County is located in the southeast corner of the state of California and extends over 4,597 square miles with the Salton Sea and Riverside County to the north, San Diego County to the west, Arizona to the east and Mexico to the south. The Imperial Valley is largely dependent on agriculture and has been described by some as a 100-mile long “trench” below sea level that contains over 500,000 acres of farmland.³



Mexicali is the capital of the state of Baja California Norte, situated east of Tijuana. The rapidly-growing Mexican city is separated from the U.S. border city of Calexico by only an iron fence. Like most border communities, Mexicali and Imperial have an intense interrelationship and share similar economic, health, and environmental challenges. At the same time, their needs, priorities, and circumstances are unique. Mexicali, a comparatively large urban area, struggles with the infrastructure constraints and problems inherent to rapid growth and industrialization. Imperial Valley on the other hand, is a largely agricultural and sparsely populated area plagued by high unemployment and low household incomes.⁴

POPULATION PROFILES

Imperial County: According to the Census 2000, Imperial County is the 9th largest county in California with approximately 142,000 people. Seventy-seven percent of the population lives in the incorporated cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland. The remaining 23% live in unincorporated rural areas. The largest municipality is El Centro (with 37,835 residents) followed by Calexico (with 27,109 residents). Approximately 72% of Imperial County residents are of Hispanic/Latino origin (compared to 32.4% for California). In the border city of Calexico, 95% of the population is Latino.



³ Martin, P. (2003) “Impact on Farm workers of Proposed Water Transfer from Imperial County: A Memorandum to the Latino Legislative Caucus of the California State Senate.” UC Comparative Immigration and Integration Program, Department of Agricultural and Resource Economics, University of California, Davis.

⁴ Source of map: 1M USGS map Los Angeles (International Map of the World, 1947) <http://geochange.er.usgs.gov/sw/changes/anthropogenic/imperial/>

Mexicali, Mexico: With nearly 800,000 inhabitants, Mexicali is the third largest municipality on the Mexican border with the United States. The municipality grew rapidly from 25,000 residents in 1955 to 764,396 as of the 2000 Mexican Census and is projected to increase to approximately 1.2 million by 2020.⁵ Approximately 73% of the population lives in the city of Mexicali and the remainder are dispersed in outlying areas of the Valley of Mexicali and San Felipe.⁶

SOCIO-ECONOMIC INDICATORS:

Imperial County: With some of the highest poverty and unemployment rates in the state, Imperial ranks among the poorest counties in California. According to the Census 2000, approximately 23% of the total population lives below the national poverty level and 43.8% of children under seventeen live in poverty. In 1999, the median household income in Imperial County was \$31,870 compared to \$47,493 for the state. Unemployment rates are exceptionally high and frequently range between 20% and 30%. Agriculture and government are the primary employers in Imperial County. In March 2002, approximately 25% of the labor force was engaged in agriculture, and 32% was employed in government positions. The remaining 43% was service and manufacturing.

Mexicali: In contrast to the U.S. side of the border, Mexican border states have higher per capita incomes, lower unemployment rates, and lower rates of poverty (as defined by the Mexican government) than the Mexican national average (although comparatively low by U.S. standards). Between January 1998 and January 2002 unemployment rates in Mexicali seldom exceed 3%.⁷ Commerce and manufacturing were the dominant sectors, employing approximately 46% of the labor force in 2000, followed by agriculture, forestry, fishing and hunting which accounted for 10%.⁸

EDUCATION & LANGUAGE:

Nearly a quarter (23.8%) of the population 25 years and older in Imperial County has an elementary education, 59% have a high school education and 10.3% have bachelor's degree or higher. Close to 68% of the population speaks a language other than English in the home.⁹ In Mexico, data is collected for persons 15 years and older. Forty-one percent of the Mexicali population 15 years and older has attained an elementary education, nearly 26% have high school education and approximately 32% have a bachelor's or advanced degree.¹⁰

REGIONAL HOUSING INDICATORS:

Imperial County has approximately 56,500 housing units of which 68% are single family homes and 18% are multi-unit complexes.¹¹ Mexicali has approximately 190,343 housing units, 86% of which are single family homes. Approximately 3% are low-income apartment complexes (vecindarios), 1% are apartments, and 10% are unspecified units.¹²

⁵ <http://typhoon.sdsu.edu/Research/Projects/Imperial/impweb.html>

⁶ CCBRES Bulletin (Nov 2002), "Government in the Imperial Valley-Mexicali Region", Vol. 3, No. 11

⁷ Instituto Nacional de Estadística, Geografía e Informática (INEGI), 2000

⁸ CCBRES Bulletin (May 2003), "An Analysis of Imperial County's Unemployment Rate," Center for Border and Regional Economic Studies, Vol. 4, No. 5. and Sistema Municipal de Base de Datos.

⁹ U.S. Census Bureau, 2000.

¹⁰ Instituto Nacional de Estadística, Geografía e Informática (INEGI), 2000

¹¹ U.S. Census Bureau State and County QuickFacts, Imperial County, California, 2000.

¹² CCBRES Bulletin (May 2003), "An Analysis of Imperial County's Unemployment Rate," Center for Border and Regional Economic Studies, Vol. 4, No. 5. and Sistema Municipal de Base de Datos.

SURVEY METHODOLOGY & DATA COLLECTION PROCESS

Purpose: The primary purpose of the survey was to assess community perceptions, awareness, and concerns about air quality issues in the Imperial-Mexicali border region. Survey data was collected between June and July of 2003 by community health workers (promotoras) from Fuerza Campesina. The promotoras conducted a total of 302 door-to-door surveys in Mexicali (N=150) and Imperial Valley (N=152).

Survey participation focused on persons over 18 years of age and participation was strictly voluntary. The survey instrument consisted of 47 questions (mostly discrete choice) that requested information about:

- Household demographics and characteristics (socio-economic, education, etc)
- Health status of household members
- Awareness and perceptions about air quality and pollution
- Perceptions and beliefs about collective and individual efforts to improve air quality
- Concerns and priorities regarding air quality issues

The interviews were approximately 25 to 30 minutes in length and were mostly conducted in Spanish. They were carried out at various hours of the day both during the week and on weekends. The vast majority of participants (84%) were female.

Observational Data: The survey instrument also included space for interviewers to record observational data about the location where the interview was being conducted. Interviewers made general observations about the homes and the neighborhoods including the size of homes, the family composition, as well as the presence of plants and gardens. Some participants in Mexicali asked that no personal information be taken for fear of being robbed. One interviewer wrote that they conducted an entire interview through a padlocked gate separating themselves from the participant. In contrast, some regions of Mexicali like Villafontana were observed to have nearby parks for children and a greater sense of community.

In Imperial, the interviewers commented on the poor housing conditions of many participants. Apartments in need of maintenance, litter, and broken down cars were documented as being prevalent in many neighborhoods. Interviewers also noted that many residents fix their cars on the street in areas where children play. Some cited a high number of cats and dogs as well as excess dust, smoke, and strong odors coming from nearby fields. Many residents commented that they were happy to have been included in the survey and that it is a good step in addressing the many problems of asthma and allergies in the County.

Data Collection Sites: Three data collection sites were chosen on each side of the border. At least two of the sites in Mexicali and two in Imperial have been targeted by the Clean Air Initiative as intervention sites for the dissemination of information and other educational activities. There were also two sites (one in Mexicali and one in Imperial) where no intervention activities are planned as well as sites on each side of the border that included neighborhoods near schools. Additionally, sites were chosen in an attempt to have a cross section of different living conditions (urban/rural), as well as socio-economic levels. In year 3 of the project, these areas will be surveyed a second time to evaluate whether there have been any changes in perceptions and concerns among residents. The data collection sites include:

- **Imperial County Locations: (1) Seeley** is a rural community and has a population of 1,624 that is surrounded by agricultural fields. Data was collected in the neighborhood

near Seeley Elementary School. The neighborhoods surrounding **(2) St. Mary's School** is located in an affluent area in El Centro that includes a private catholic school as well as a public elementary school. The **(3) Jefferson Elementary school area** is located next to the U.S. Mexican border in Calexico and is considered a low income community.

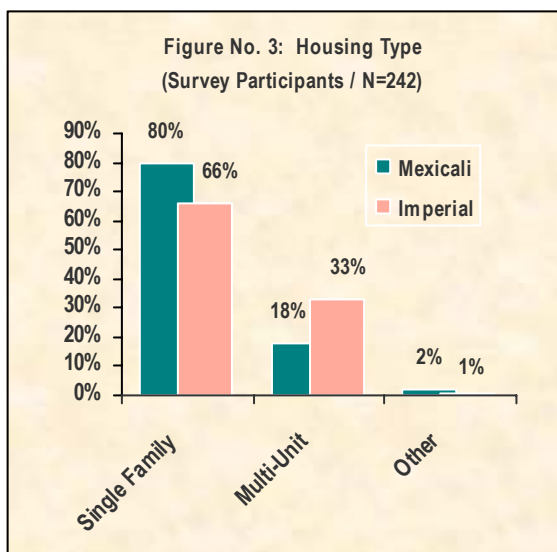
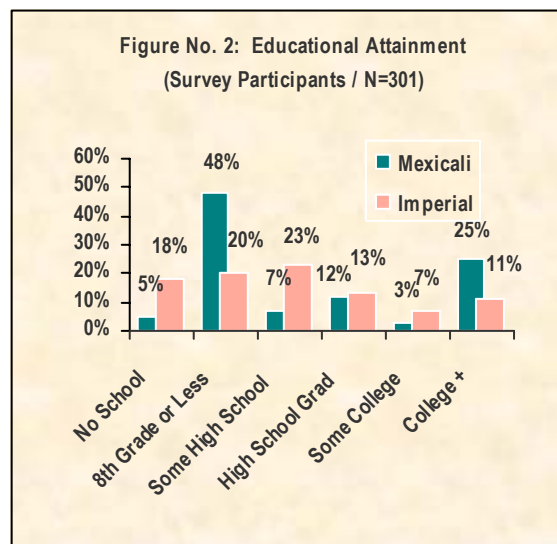
- **Mexicali Locations:** The **(1) Marcelino Magana area** is located in a rural area and is adjacent to power plants and near the highway from Mexicali to Tijuana. **(2) Villafontana** is located in an affluent area of Mexicali. **(3) Escuela Leona Vicario** is a school neighborhood located in the center of Mexicali near the border. This area is subject to cross border traffic, pesticide drift, and smoke from agricultural burning in Calexico.

PARTICIPANT DEMOGRAPHICS

This section reviews the demographic characteristics of survey participants including educational attainment, housing characteristics, household income, employment status and modes of transportation.

Ethnicity & Country of Origin (Birth): The overwhelming majority (99%) of survey participants on both sides of the border identified themselves as Latino of which 65% identified Mexico as their place of birth. Approximately 32% were born in the United States and a small percentage (3%) declined to answer.

Education: Educational attainment levels were relatively diverse, particularly in Mexicali. In Mexicali, 48% of the participants had up to an 8th grade education. Twenty-five percent had received college or postgraduate degrees. In Imperial County, 18% of participants had no formal education, 20% had an 8th grade education or less, 23% had some high school, 13% were high school graduates, and 11% had a college or advanced degree.

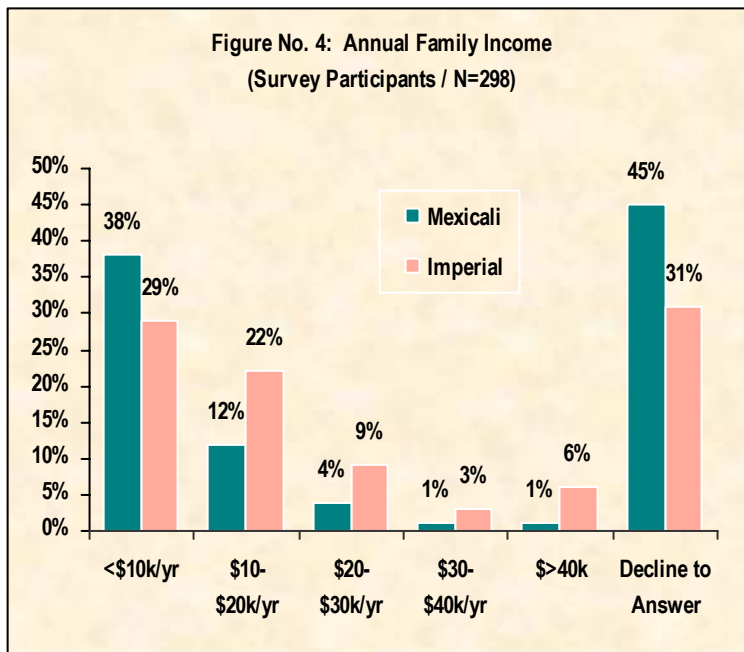


Home Ownership & Type of Housing: Approximately 60% of all the survey participants owned their own home and 40% were renters.

- 80% of Mexicali participants (N=100) reported living in single family homes compared to 18% who were living in multi-unit complexes.
- In Imperial (N= 142) 66% of participants reside in single family homes and 33% live in multi-unit complexes.
- Overall, 73% of all participants had 2 adults per household
- Overall, 85% of the households had children (under 18) and most had 1 to 3 children.

Household Income: A significant percent of all survey participants (38%) were unable or unwilling to divulge information about family income. In Mexicali, 45% of the participants declined to answer this question compared to 31% of participants in Imperial. Of the 186 participants who provided information, 33% reported an annual family income under \$10,000. Approximately 17% had an annual family income between \$10,000 and \$20,000, while an estimated 12% had incomes over \$30,000. Given that such a large number declined to provide information, it is difficult to determine whether the sample population is representative of their respective populations on each side of the border. Figure 4

illustrates annual family incomes for Imperial and Mexicali participants.



In addition to household income, participants were also asked whether they had “extra” money at the end of the year or whether they received an “aguinaldo” (year-end bonus). The “aguinaldo” was only relevant to the participants in Mexicali, where employers customarily give employees a year-end bonus that is usually equivalent to one month’s wages. Sixty-one percent of the Mexicali participants reported receiving an “aguinaldo.” Not including the participants who received an “aguinaldo”, only 12% of the participants on both sides of the border reported having “extra” money at the end of the year.

Employment status

- 20% of the survey participants had one or more household members that were agricultural or migrant workers.
- 64% of the participants were employed and over 50% reported that there was another member of their household that was employed.
- Types of employment varied widely including both professional as well as blue collar workers.

Main Modes of Transportation

- 75% of participants used cars as their main mode of transportation and 10% used a combination of car and walking.
- Over 50% of participants reported that the car is the principal mode of transportation that their children use to get to school. Less than 6% took the bus.

HEALTH STATUS

The following section summarizes the responses regarding health status including types of insurance, health care utilization, exposure to tobacco smoke, occupational exposure to chemicals, health conditions and symptoms exacerbated or triggered by poor air quality, exercise and outdoor exposure.

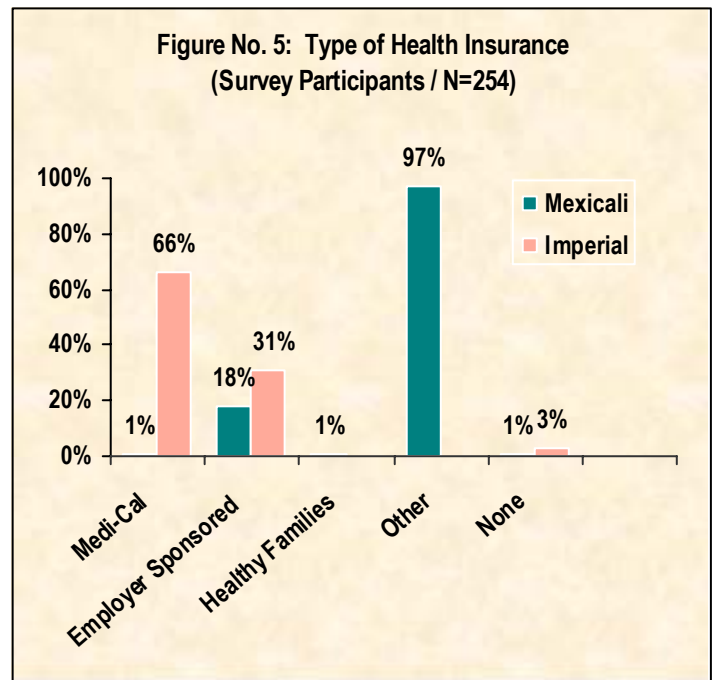
Health Insurance

In Imperial County (N=150), 66% of the participants reported having Medi-Cal coverage while 31% had health insurance sponsored through their employer. Only 1% had *Healthy Families* and 3% reported having no health insurance (see figure 5).

Not surprisingly, 97% of Mexicali respondents (N=104) reported having "Other" types of insurance which would most likely be health benefits ("seguro social") sponsored by the government's Instituto Mexicano de Seguro Social.

Health Utilization

Eighty-three percent of Mexicali participants reported seeking medical attention from private doctors for most of their health care needs, 16% reported using some "other" facility, and 1% used clinics. Imperial participants were far more likely to seek medical attention from local clinics (61%), while 37% reported using a private doctor, and 2% reported "other". Overall, participants did not use emergency rooms for regular medical needs.



Smoking & Exposure to Second Hand Smoke

- The majority of participants (82%) reported that they did not smoke and 94% said they did not allow smoking inside their homes.
- Approximately 22% of households had at least one individual who smoked.

Occupational Health

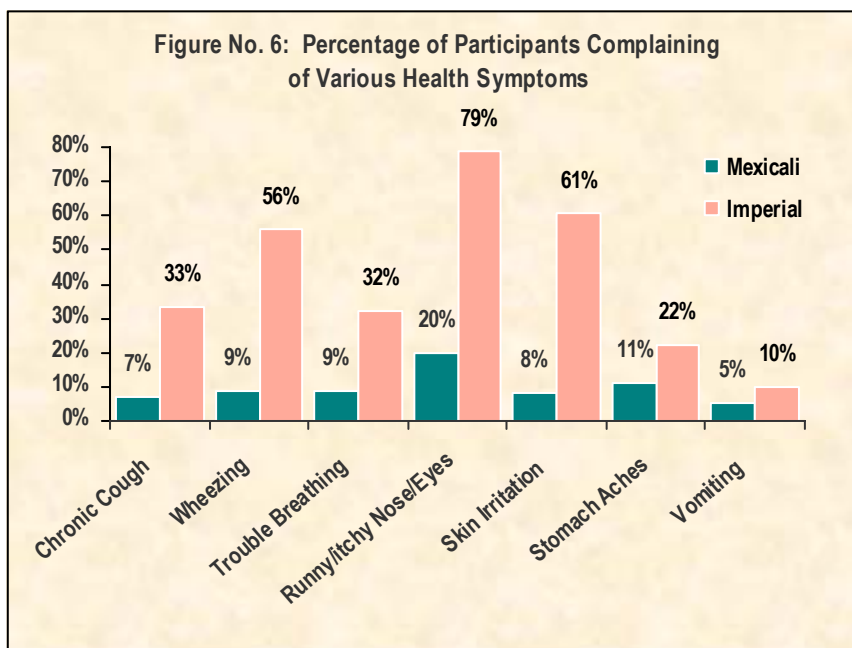
Participants were asked whether any members of their household worked at a place where they were regularly exposed to chemicals (e.g. dust, paint, pesticides, fumes).

- 67% of the respondents reported they personally did not work in a place where they were exposed to chemicals, 14% reported exposure, 16% were unsure, and 3% declined to answer.
- The types of chemicals mentioned by those reporting exposure included bleach and cleaning products, fertilizers and pesticides, gasoline, fumigation chemicals, paint and thinner, and power plants.

Health Symptoms

Participants were asked if they experienced chronic coughing, trouble breathing, wheezing, runny nose or itchy eyes, skin irritation, and/or headache, nausea, dizziness, and vomiting. These health symptoms are frequently associated with (or can be exacerbated by) environmental pollutants.

As observed in Figure 6, Imperial County participants reported significantly higher complaints in every category. Nearly 80% complained of allergy-like symptoms (runny/itchy nose and eyes), 61% reported skin irritation and 56% reported problems wheezing. Respiratory problems including chronic coughing (33%) and trouble breathing (32%) were also reported at much higher rates than their Mexicali counterparts.



Participants were also asked whether other members of their household (children and/or adults) experienced the above symptoms. Not surprisingly, participants were more likely to report symptoms they themselves experienced and reported fewer complaints about wheezing, allergy-like symptoms, and skin irritation for other members of their household. A review of the overall figures (all household members combined) revealed lower rates, with 30% reporting runny/itchy eyes or nose, 20% skin irritation, 17% wheezing, 14% trouble breathing (respiratory distress), and 12% chronic coughing.

Asthma

Thirty-three out of 289 participants (11%), reported that they had been diagnosed with asthma. In addition, 9% said someone else in their household had been diagnosed, the majority of which were children. Once again, Imperial participants reported a higher incidence of diagnosed asthma with 17% saying they themselves had been diagnosed compared to 6% of Mexicali participants. As noted above, a relative high percentage of participants reported asthma symptoms (chronic coughing, wheezing and trouble breathing) which may be an indication of asthmatics who have not been diagnosed by a health care professional.

Most participants who reported asthma (either themselves or a member of their household) said that the illness started in childhood. Changes in weather or temperature were frequently mentioned as times when asthma attacks were most likely to occur.

- 98% of participants were unaware of any asthma programs in their neighborhood
- 99% of participants with asthmatic children did not work with the school nurse to manage the child's asthma

Cancer

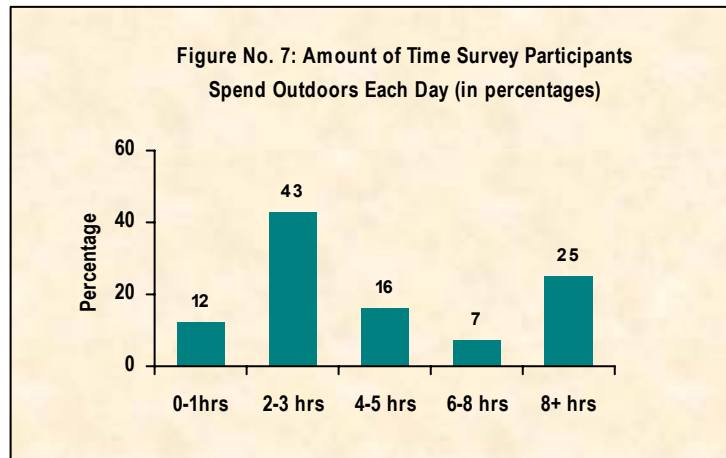
Participants were also asked whether they or anyone in their household had been diagnosed with cancer. Cancer prevalence was very low, with only 2% reporting a diagnosis among members of their household.

AIR QUALITY & EXPOSURE

Time spent outdoors

Nearly 43% of the survey participants reported spending 2 to 3 hours outdoors each day. Twenty-five percent spend 8 hours or more outdoors, which closely resembles the number of participants engaged in the agricultural industry.

Older children tend to spend more time outdoors than younger siblings and are more likely to be engaged in organized activities. Of the households with children, 54% had at least one child participating in organized sports.



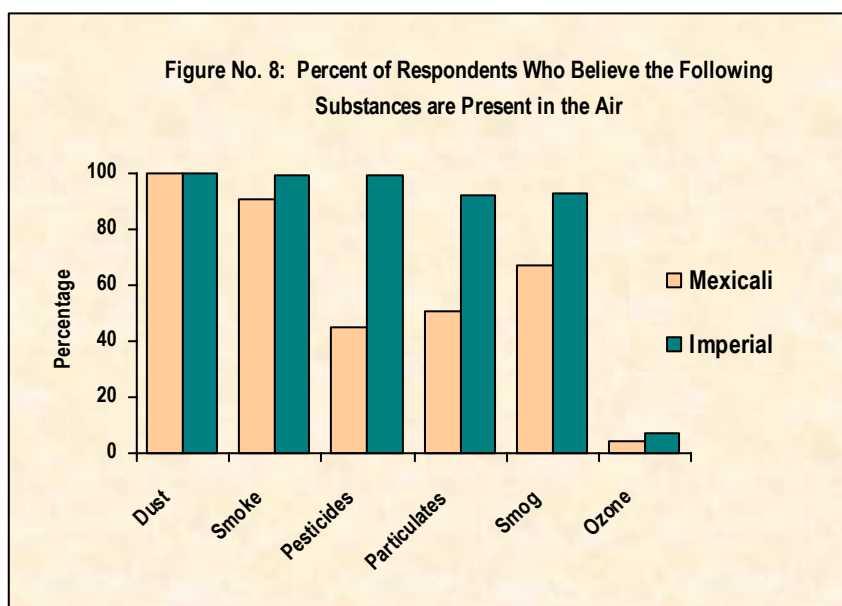
Exercise & Organized Sports

Participants were asked whether they or other members of their household participated in organized sports such as soccer, baseball, or other activities. Eighty-one percent of the respondents did not participate in any type of organized sports. Likewise other adult members of the household were not likely to engage in exercise activities. Of the small percentage that did exercise, the most common activity was walking.

AWARENESS ABOUT AIR POLLUTION

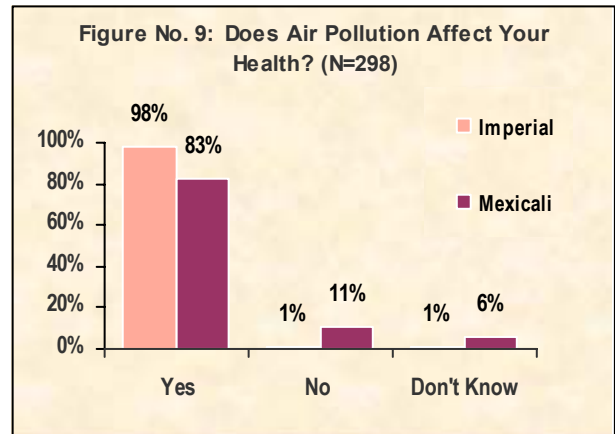
In an effort to assess participants' understanding and awareness about air pollution they were asked a series of questions about air quality and its potential effects on health. This section summarizes and compares responses on both sides of the border.

Substances in the Air: Survey participants were asked about the types of substances they believed were in the air and whether any of those substances caused them concern. Nearly all participants believed that dust and smoke are in the air they breathe and very few selected ozone. There was a marked difference between participants in Mexicali and Imperial with regards to pesticides. Close to 99% of the Imperial participants selected pesticides compared to 43% of those in Mexicali. Particulates and smog were also selected less frequently by Mexicali participants.



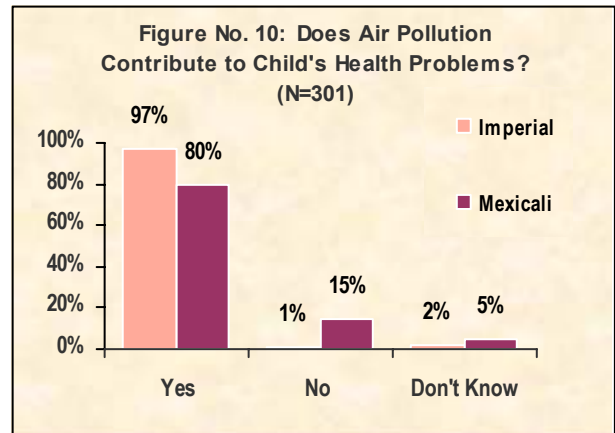
Does air pollution in your community affect your health or your family’s health? (Figure 9)

Most of the participants (89%) on both sides of the border believed that air pollution affected their health and/or their family’s health. In Mexicali, 83% replied yes compared to 98% of Imperial participants. Only a small percentage of participants were unsure or felt that air pollution had no impact on health.



Does air pollution contribute to any of your child’s (children’s) health problems? (Figure 10)

Eighty-eight percent of participants believed that air pollution contributes to their child’s (children’s) health problems. Imperial participants were more likely to believe air pollution exacerbates health problems, with 97% responding “yes” compared to 80% in Mexicali.

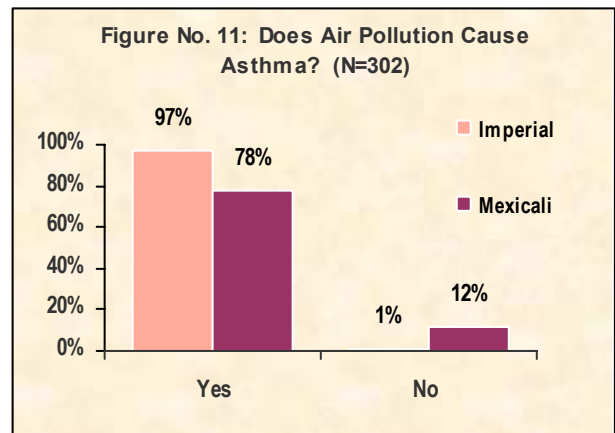


Does air pollution cause asthma? (Figure 11)

Overall, the vast majority of participants believed that air pollution was directly linked to causing asthma. Once again, Imperial residents were more likely to respond “yes” to this question (97%) compared to their Mexicali counterparts (78%). At least 10% of all respondents were not sure whether there was a link between asthma and air quality.

The conversational notes that were recorded by interviewers provide additional insight about concerns and perceptions. Many respondents mentioned problems with allergies which they attributed to pollution and changes in weather.

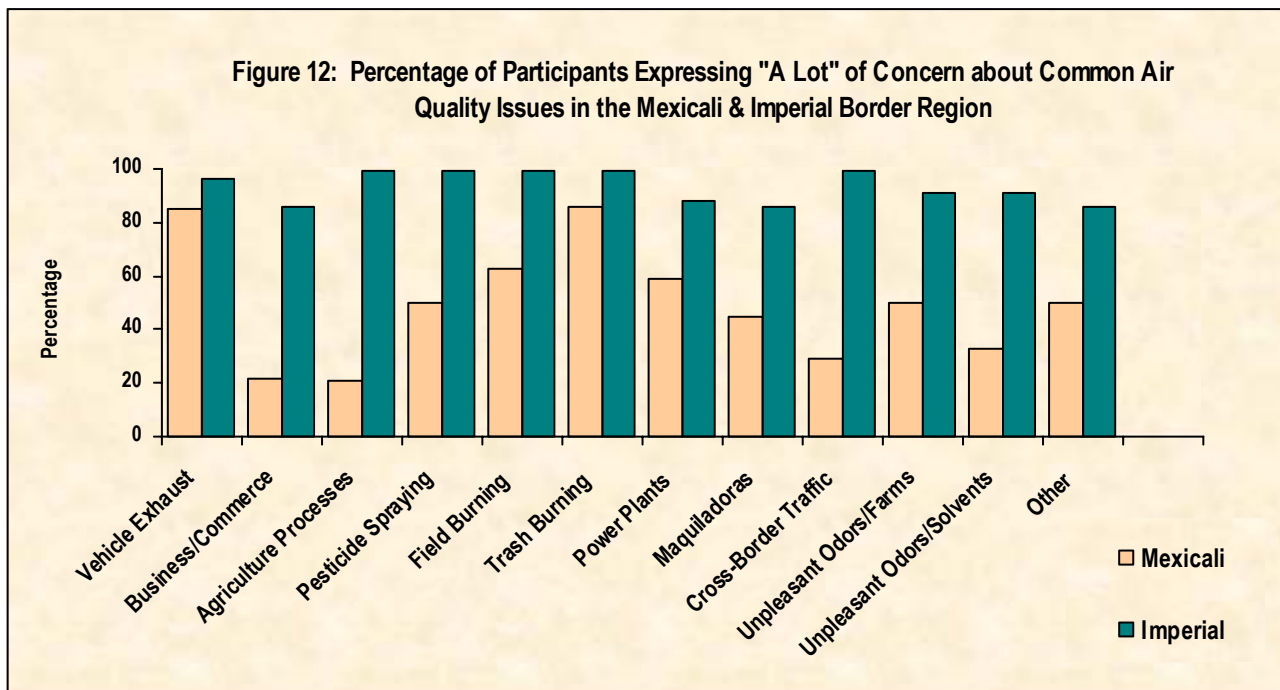
Numerous participants expressed there was a general lack of information about asthma and allergies and some confused allergies with the common cold.



Common Air Quality Concerns

Participants were presented with a list of common air quality issues and were asked to indicate their level of concern by choosing “Not at All”, “A Little”, “A Lot” or “Don’t Know”. Participants in Imperial County were more likely to choose “A Lot” in every category whereas their Mexicali counterparts showed more variance in their levels of concern on different issues.

As illustrated in figure 12, Mexicali residents were most concerned about urban sources of pollution such as vehicle exhaust from cars, trucks, and buses with 85% indicating “A Lot”. They also expressed concern about trash burning (86%) which is a common occurrence in many parts of the city. While Imperial participants expressed a high level of concern in all categories, they were most likely to identify issues related to agriculture such as pesticide spraying, field burning, and other agricultural processes. In all these categories, 99% of Imperial participants expressed “A Lot” of concern. They expressed an equal level of concern about trash burning and cross-border traffic.



Priorities

The interviewers explained to participants that the Clean Air Initiative was working to improve air quality and make the community a healthier place to live. Participants were asked an open-ended question about what two problems should be prioritized. Both Mexicali and Imperial participants expressed a need for more information about asthma and allergies. One participant felt information about these issues should be topics addressed in schools.

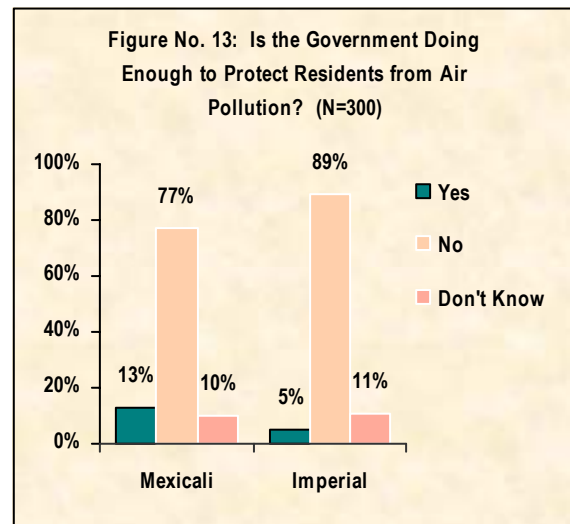
In Mexicali, participants expressed a need to better regulate the emissions of cars and vehicles. Reforestation of the region was also frequently cited. Others mentioned the need to regulate trash burning and the need to reduce dust by paving streets. Maquiladoras were also viewed as a pollution source by Mexicali participants. In Imperial, participants emphasized the regulation of both pesticides and the burning of agricultural fields. These factors were both repeatedly cited as negatively effecting air quality. Numerous participants expressed the need for more parks where their children can play.

EMPOWERMENT & ADVOCACY

Air quality issues often beg an answer to the question of “who’s responsible?” Participants were asked whether they felt their respective governments were doing enough to protect them from poor air quality. They were also asked whether they felt individuals as well as residents working collectively could have an impact. Finally, they were asked about their own willingness to get involved and become better informed.

Is the Government Doing Enough?

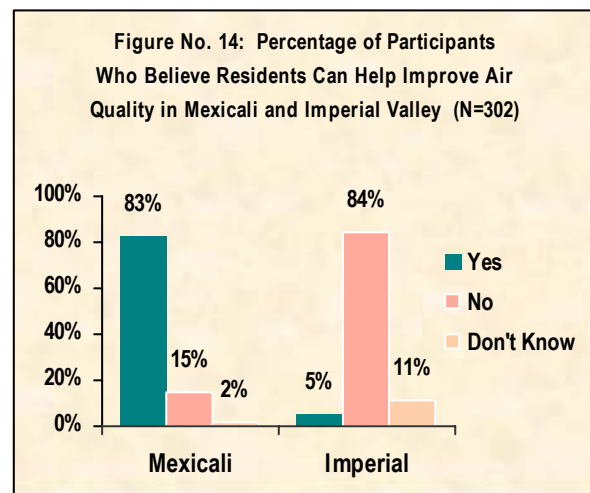
The vast majority of participants (83%) on both sides of the border believe their respective governments are not doing enough to control air pollution. In Imperial, 89% were disappointed with government efforts compared to 77% of their Mexicali neighbors.



Can Residents Help Improve Air Quality?

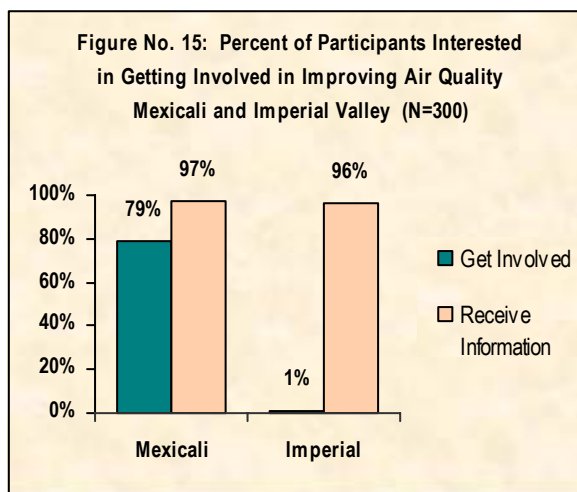
Some of the most striking differences between Mexicali and Imperial participants concerned their opinions about advocacy and civic participation (both as individuals and collectively). In Mexicali 83% of the survey participants believed that residents could help clean up air pollution in their neighborhood. However in Imperial Valley, the overwhelming majority (84%) believed that residents could do very little to make a difference.

When asked whether they personally (as individuals) could help improve air quality in their neighborhood, Mexicali participants were again more optimistic although less confident than they were with collective efforts to improve the environment. Fifty-one percent of Mexicali participants believed they could personally contribute while 45% said they were unwilling or unable to have an impact as individuals. In Imperial, 89% felt that they personally could not do much to improve air quality.



Despite their concerns about air quality, the Imperial participants expressed little interest in getting involved in local air quality efforts and programs. Only 2 (1%) of the 152 Imperial Valley participants said they would like to participate. While Imperial participants were not interested in becoming actively involved, 96% said they would like to receive free mailings and information about air quality and related health issues.

In contrast, nearly 80% of Mexicali participants expressed interest in getting involved and 97% were interested in receiving free mailings about health and air quality. Mexicali participants were also more likely to offer suggestions about how residents could get involved in efforts to improve the quality of the air. Several mentioned that improvements could be made by forming a committee, working on clean air campaigns, encouraging people to recycle and planting trees. Some stated the need to disseminate more information on ways to improve the environment and reduce pollution. Many participants cited the need to control vehicle emissions. In Imperial, residents stated that they could individually improve the quality of the air by planting trees.



SUMMARY OF KEY FINDINGS

The principle objective of the Clean Air Initiative survey was to assess community perceptions and concerns regarding air quality issues in the Imperial-Mexicali border region. While residents on both sides of the border share similar challenges and concerns, they have contrasting views about community involvement and advocacy. This may necessitate the development of different program and outreach strategies in each community. Additional observations include:

Awareness About Asthma & Other Respiratory Illnesses

As noted earlier in this report, numerous sources indicate relatively high levels of asthma prevalence in Imperial County (no information is available for Mexicali). The California Health Interview Survey (CHIS) conducted by the UCLA Center for Health Policy Research in 2001 indicated that 11.2% of children (ages 0-17) and 8.9% of adults in Imperial County had reported being diagnosed with asthma and reported experiencing symptoms within the preceding 12 months.¹³ While the Clean Air Initiative sample size was small, important issues and differences emerged between Imperial and Mexicali participants. One finding of the survey is that the number of asthmatics (both diagnosed and undiagnosed) may be higher than current Imperial County estimates.

- In the Clean Air Initiative survey, **17% of the Imperial County participants (adults) compared to 6% of Mexicali participants reported being diagnosed with asthma.** Furthermore, an even higher number of Imperial participants reported asthma-like symptoms with 56% complaining of wheezing, 33% chronic coughing, and 32%

¹³ www.chis.ucla.edu

with breathing problems. This suggests there **may be undiagnosed asthma as well as a lack of awareness about respiratory diseases and their symptoms.**

Anecdotal information collected through the interviews corroborated the need and interest in receiving more educational information on asthma and respiratory illnesses.

Community Involvement & Advocacy

- **While Imperial County participants seemed to be more alarmed about air quality issues, they were less likely to want to get involved or take action (individual or collective) to remedy environmental problems.** In fact, only 1% of the Imperial participants said they were interested in participating in programs or activities. Mexicali residents appeared to be more politically active and willing to get involved in efforts to improve the environment.
- **Residents appear to be very concerned about air quality issues but may lack more in-depth information about potential solutions, leaving them uncertain about what they should advocate for or the sorts of actions they can take (individually and/or collectively) to make a tangible difference.** The apparent sense of apathy among Imperial participants is likely due to a combination of factors. One possibility is they believe it's the government's responsibility to ensure good air quality and they, as residents, do not have the political clout to influence policy and compliance. This might require additional program activities designed to increase and cultivate civic participation.
- **The high level of interest in receiving information (with no obligation of involvement) indicates both a need and opportunity to expand educational and community organizing efforts around air quality and environmental health issues.** These efforts should be geared appropriately to the educational levels of the audience and may include opportunities (such as community forums) for residents to voice their concerns, ask questions, participate in identifying priorities, and claim a sense of ownership in the process. The observational data and notes collected by the interviewers further supports that many community residents would like to be involved in this process but may have never been asked or invited to participate.

In summary, residents on both sides of the U.S.-Mexico border shared a high level of concern about poor air quality and the need for more information about its effect on health. Despite the fact that Mexicali residents were more primed for civic engagement, the survey results indicate a need in both Mexicali and Imperial for a coordinated campaign that clearly articulates specific activities that residents can do to improve air quality and/or advocate for better regulation and compliance. Furthermore, while residents on both sides of the border are striving for the same goal (improved air quality), program strategies should be community-specific and responsive to the different priorities, perceptions, and conditions that were addressed in this report.

REFERENCES & RESOURCES

California Center for Border and Regional Economic Studies (CCBRES), San Diego State University, Imperial Valley Campus website, Data Indicators (www.ccbres.sdsu.edu/Data)

"Government in the Imperial Valley-Mexicali Region" (Nov 2002). California Center for Border and Regional Economic Studies (CCBRES) Bulletin Vol. 3, No. 11

"An Analysis of Imperial County's Unemployment Rate" (May 2003). California Center for Border and Regional Economic Studies (CCBRES) Bulletin Vol. 4, No. 5.

California County Fact Book 2003. California Institute for County Government.
(<http://cicg.org/publications/profiles/factbook.php>)

California Health Interview Survey, CHIS (2002). UCLA Center for Health Policy Research.
Available: <http://www.healthpolicy.ucla.edu/chis/index.html>

"County Snapshot: Imperial 2002." California Employment Development Department, Labor Market Information Division (LMID). (www.calmis.ca.gov)

Instituto Nacional de Estadística Geográfica e Informática (<http://www.inegi.gob.mx/>)

Martin, P., (2003) "Impact on Farmworkers of Proposed Water Transfer from Imperial County: A Memorandum to the Latino Legislative Caucus of the California State Senate." UC Comparative Immigration and Integration Program, Department of Agricultural and Resource Economics, University of California, Davis.

Sistema Municipal de Base de Datos (<http://www.inegi.gob.mx/difusion/espanol/fsimbad.html>)

U.S. Bureau of the Census (<http://www.census.gov>)

<http://typhoon.sdsu.edu/Research/Projects/Imperial/impweb.html>