A RESEARCH AND OUTREACH AGENDA FOR AGRICULTURAL WORKERS IN CALIFORNIA

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EXECUTIVE SUMMARY

The UC-Davis Sustainable Agriculture Research and Education Program (SAREP) works to promote a more socially, economically, and environmentally sustainable food system in California. The estimated one million agricultural workers and accompanying family members play an integral role in the success of California's agricultural sector and the food system as a whole. Despite their vital contributions, California farmworkers face numerous challenges, with negative impacts on workers, families, agricultural communities and the food system as a whole.

In order to better address the needs of this vital population and promote a food system that is truly sustainable, SAREP commissioned research to identify the key issues facing agricultural workers and research and outreach opportunities to promote improved conditions.
This research and outreach agenda was developed based on several methods, including a review of the literature; key informant interviews with researchers with many years of experience studying agricultural worker conditions; key informant interviews with stakeholders representing a broad range of community-based organizations promoting farmworker wellbeing, and a survey of researchers currently studying agricultural worker conditions in California.

The report provides an overview of the issues as identified by the literature and key informant interviews, as well as a series of research and outreach recommendations that were directly put forth by key informants.

Of note is the fact that many respondents expressed satisfaction with the fact that SAREP is actively working to promote improved conditions for agricultural workers, as well as the fact that the research agenda is based on feedback from community-based stakeholders working directly with agricultural workers. Many informants also noted that independent, university-based research would be an invaluable tool in furthering their efforts to promote improved farmworker conditions.

The research identified hundreds of research questions and recommendations for outreach, all of which merit consideration. Nonetheless, several particularly important areas of inquiry have emerged, based on emerging issues, high need or gaps in the research. These include the following:

- *Health Care:* Impacts of the Affordable Care Act on farmworker access to healthcare and the viability of farm operations.
- Health *Care:* Impacts of the Affordable Care Act on the availability of permanent and full-time employment for farmworkers.
- *Technology:* Impacts of increasing use of robots and other "smart farm" technologies on labor and employment patterns, particularly in the specialty crop sector.
- *Technology:* Identification of ways to improve farmworker wellbeing through technology and social media.
- *Housing:* Identification of affordable and viable models for improved farmworker housing, particularly for unaccompanied migrant workers.
- *Farm Labor Intermediaries:* Labor conditions among direct hire employees and contract labor.

- *Market-based Efforts*: Impacts of voluntary "fair labor" certification and related efforts on farmworker well-being, the viability of agricultural operations and mechanization.

The research findings are based on feedback from a relatively small number of stakeholders and as such do not constitute a comprehensive overview of all issues facing agricultural workers. Likewise, the findings do not constitute a complete compendium of research and outreach that could contribute to improved farmworker conditions.

It is our hope that the research and outreach needs identified in this report represent a first step in contributing to efforts that will result in improved living conditions for agricultural workers and their families in California.

INTRODUCTION

The UC-Davis Sustainable Agriculture Research and Education Program (SAREP) works to promote a more sustainable food system in California. In addition to promoting a more environmentally sound food system, SAREP promotes social sustainability in a range of areas, including improved living and working conditions for agricultural workers and rural communities throughout California.

In order to identify research and outreach opportunities that are directly aligned with the needs of stakeholders, SAREP commissioned research to identify the key issues facing agricultural workers in California and opportunities for research and outreach to promote improved farmworker conditions. For purposes of this assessment, stakeholders were defined as all groups associated with farmworkers, including farmworkers themselves, farmworker advocacy groups and public sector or community-based organizations providing services to farmworkers.

Growers and other agricultural employers were included as key stakeholders as well, since they play a vital role in improving farmworker conditions and may benefit from a healthier and more satisfied workforce. In that sense, the research has attempted to identify "win-win" efforts benefitting both employers and agricultural workers. As a key informant explained, "If we don't have win-wins, we're not going make any progress."

The research was conducted with the ultimate goal of identifying *actionable* research and outreach to support the efforts of nonprofit organizations, public sector agencies, agricultural employers and others working to promote improved farmworker conditions. In that sense, this research also sought to identify potential partners to collaborate on future research and outreach, with the goal of ensuring that the research will directly meet their needs, and approach that resonated with many stakeholders.

Methods

The findings and research agenda are based on a range of methods, including the following:
A review of the literature regarding different aspects of farmworker wellbeing included in this report was conducted. Given the many issues addressed and the large body of literature regarding agricultural workers, the review is not meant to be comprehensive, but rather to provide an overview of the issues.

In-depth interviews were conducted with 59 key informants representing a broad range of sectors and issues associated with farmworker wellbeing. These sectors included workplace conditions, individual and community health, occupational health and safety, housing, transportation and market-based efforts to improve farmworker conditions. Interviews were also conducted with individuals representing specific sub-populations of farmworkers, including women, children and indigenous farmworkers. Interviews were also conducted with agricultural employers, including growers and representatives of grower and farm labor contractor associations.

A group interview was conducted with over 20 agricultural workers representing different

regions of California.[1] The purpose of the focus group was to identify key issues from the perspective of farmworkers and recommendations for research and outreach to improve farmworker conditions.

A group interview was also conducted with members of the Ventura County House Farm Workers Task Force.[2]

An online survey was conducted with farmworker researchers throughout California. The survey was sent to 156 researchers, with 52 responses, representing a response rate of 33.3%. The purpose of the survey was to identify recommendations for research and outreach, perceptions of the need for increased collaboration among farmworker researchers and perceptions of the need for increased collaboration between farmworker researchers and community-based organizations (CBOs). An additional goal of the survey was to develop a database of farmworker researchers in California as a resource to connect farmworker researchers, graduate students and community-based organizations.

Of note is that many key informants expressed a high degree of satisfaction with the fact that SAREP is actively working to identify ways to promote improved conditions for agricultural workers in California, as well as the fact that the research agenda is based on direct feedback from stakeholders. A number of informants also noted that independent, university-based research would be an invaluable tool in furthering their efforts.

Limitations

There are a myriad of issues affecting farmworkers. The goal of this report is not to provide a comprehensive overview of all issues affecting farmworkers. Rather, it is to catalogue key issues that would particularly benefit from research and outreach efforts. An additional goal was to document recommendations for research and outreach *as identified* by key stakeholders. There are numerous, potentially important research questions that could be included, in addition to those mentioned by stakeholders interviewed as part of this effort. However, we have deliberately limited research questions to those raised directly by stakeholders, in an effort to develop a research agenda that will respond to the informational needs of those directly working with agricultural workers.

Given the relatively small number of individuals contacted via this research and the many issues affecting agricultural workers, these findings should not be considered a definitive overview of the issues. The identification of research and outreach needs must also be a dynamic process, as issues will continuously evolve.

It was not possible to identify whether research has already been conducted on all of the many research questions raised by key informants. A thorough review of the literature should be conducted before pursuing any of the identified avenues of inquiry.

[1] Interview participants consisted of Farmworker Leadership Committee members representing California Rural Legal Assistance regional offices around the state.
[2] The interview was conducted by task force members Ellen Brokaw and Sonja Flores.

OVERVIEW OF FARMWORKER LIVING AND WORKING CONDITIONS

There are an estimated two to three million agricultural workers living and working in the United States, with the largest concentrations in California, Florida, Texas, Washington, Oregon, and North Carolina, which account for half of all hired and contracted agricultural workers (Kandel 2008). Approximately one in three (37%) hired farmworkers lives in the Southwest, including California, while an additional 24% are found in other western states, 20% in the South, 12% in the Midwest and 7% in the Northeast (Martinez Patterson and Navarro 2012).

Approximately one half (48%) of farmworkers participating in the National Agricultural Worker Survey (NAWS) report a lack of legal documentation to live or work in the U.S. Nonetheless, most observers put the figure considerably higher, at closer to 70% or 80%. An additional 33% of NAWS respondents claim to be U.S. citizens, while 18% have a "green card," and about one percent are authorized to work in the U.S. under H-2A temporary agricultural worker visas.

The following section presents key findings with respect to the main issues addressed by this assessment, which are divided into three broad categories: demographics, workplace conditions and community and environment. That is followed by a discussion of the most salient research gaps that emerged from the study along with recommendations for building a research and outreach agenda. This analysis represents a synthesis of a review of the literature, and research needs identified by key informants, including practitioners and researchers in the field.

DEMOGRAPHICS

The approximately 1,400,000 agricultural workers and accompanying family members in California (National Center for Farmworker Health 2013) are vital to California's role as the top agricultural state in the U.S. With over $43 billion in revenues in 2011, California represents over 20% of the total value of agricultural production in the U.S. (USDA NASS 2012). California farmworkers represent approximately 36% of all agricultural workers in the U.S. (USDOL 2009).

Place of Origin

Findings from the National Agricultural Worker Survey (Carroll et al. 2011), indicate that approximately two in three (68%) agricultural workers were born in Mexico, while 29% are from the U.S. and Puerto Rico, and an additional 3% from Central America. A small number of farmworkers hail from the Caribbean, principally Jamaica and Haiti.

Of the California workers, almost 96% were born in Mexico, with approximately 20% of indigenous descent, originating from the Mexican states of Michoacán, Chiapas, Oaxaca, Guerrero and Veracruz. Indigenous workers face additional challenges beyond those affecting most farmworkers (Mines et al. 2010).

One fourth (26%) of foreign-born farmworkers have been in the U.S. less than five years, while 55% have been here for 10 years or more. Fluency in English is relatively low, with 35% reporting that they speak no English, while an additional 35% speak English "a little" or

"somewhat" (Carroll et al. 2011). These low levels of fluency negatively affect many aspects of farmworker health and well-being, including safety, understanding of their rights, housing, and ability to navigate U.S. health and social service systems.

Gender

The majority (73%) of California farmworkers are men. According to the NAWS survey, 72% of women farmworkers were married, while 69% had children. Fully 95% of mothers lived with their children, compared with 62% of fathers (USDOL 2005).

Ethnicity

Indigenous farmworkers from southern Mexico and Central America represent a growing segment of the farmworker population and currently account for an estimated 15% of all agricultural workers, up from approximately 4% in 1990 (Carroll et al. 2011). Mines et al. (2010) estimate that there are over 100,000 indigenous farmworkers in California. The rise in indigenous farmworkers is a function of economic pressures in southern Mexico, coupled with growing networks in the U.S.

Indigenous farmworkers face numerous challenges beyond those affecting all farmworkers. They come from more isolated, rural communities, with lower levels of education and literacy. Many are monolingual, speaking only indigenous languages. They are typically more recent arrivals in the U.S. and are therefore less familiar with accessing health and social services than other farmworkers. Patterns of ethnic discrimination from Mexico are often reproduced in the U.S., further exacerbating these challenges.

Age

Over three-fourths (76%) of farmworkers are 25 years or more of age, while 3% are 14-17 years old. The average age of agricultural workers is 36, which has been increasing over the years (Carroll et al. 2011). In California, the median age is 32 (Aguirre International 2005).

Accompaniment Status

Contrary to popular perceptions of farmworkers as young, single males, findings from the NAWS indicate that 59% of farmworkers are married, while 35% are single and 6% are separated or divorced. Approximately 43% of farmworkers are accompanied by spouses and/or children (USDOL 2005). Among California farmworkers, most (64%) are married and 54% are parents (Aguirre International 2005).

Migratory Patterns

Approximately 25% of all farmworkers are considered "migrants," a figure that has declined from over half in 2000 (Carroll et al. 2011). There are three principal migratory streams in the U.S. The Eastern Migrant Stream originates in Florida and extends up the East Coast; the Midwestern stream originates in Texas and extends to the Great Lakes and Great Plain states; and the Western Stream originates in California and extends along the West Coast through Oregon and Washington. The Midwestern migrant stream is smaller than the Eastern or Western

streams.

The NAWS defines migrants as workers who travel at least 75 miles during a 12-month period to obtain employment in agriculture,[3] with two principal sub-categories of migrants. "Follow the crop migrants" are defined as those who may have a home base, but travel to multiple farm locations for work. Conversely, "shuttle migrants" are defined as traveling 75 miles or more to do farm work in a single U.S. location, working only within a 75-mile radius of that location. These two categories are further sub-divided into domestic and international migrants, based on whether international borders are crossed during the course of the year.

Based on the above categorization, 16% of migrants are defined as "domestic follow the crop," 3% are "international follow the crop," 17% are "domestic shuttle," and 29% are "international shuttle" migrants. An additional 35% of farmworkers are classified as "foreign born newcomers," having arrived in the U.S. during the past year, making it too soon to determine a migratory status based on the previous 12-month work history.

Migrant workers are paid less and experience more seasonal unemployment than their settled counterparts. Average hourly wages for migrant farmworkers were $7.52 in 2006, compared with $8.53 for non-migrants, a 13 percent difference. Lower wages are compounded by higher rates of unemployment, with migrants reporting half as many weeks of employment as settled farmworkers (Kandel 2008).

In California, approximately 33% of farmworkers in California are migrants, traveling more than 75 miles to obtain work in agriculture, with those in the U.S. for less than two years significantly more likely to migrate. The percentage of migrant farmworkers has been decreasing steadily, from a high of 55 percent in 1997-1998 (Aguirre International 2005).

Education

Most farmworkers report low levels of education. Average educational attainment is 8th grade, with approximately 40% completing less than seven years of school. Women typically have lower educational levels than men. At the same time, over one-third of farmworkers have a high school level of education or greater, with 9% reporting some post-secondary education. California farmworkers have an average of six years of education. (Aguirre International 2005)

Children

An estimated 400,000 to 500,000 children work as hired farmworkers in the United States (AFOP 2007), with approximately 500,000 children that work on their families' farms (National Children's Center for Rural and Agricultural Health and Safety 2011).

Agriculture is the most dangerous industry in the nation for children. Approximately 300 children die in farming accidents each year, with an estimated 100,000 injuries. Nearly 950 children suffer permanent disabilities associated with farm accidents annually (National

[3] There are nonetheless numerous definitions of "migrant" used by the various government agencies and programs that serve migrant and seasonal farmworkers.

Children's Center for Rural and Agricultural Health and Safety 2011).

Children in the fields are exposed to many of the same hazards as adults, yet their smaller and less developed bodies are significantly more susceptible to pesticides, musculoskeletal injuries, sharp tools, dangerous machinery, and other workplace hazards (AFOP 2007). While most children work in the fields out of economic necessity, non-working children may be brought to the fields by parents who cannot afford childcare, where they too are exposed to pesticides and other dangers on a daily basis.

Children working in agriculture do not enjoy the same legal protections as other industries. Children ages 12 and up may work for hire on any farm with their parents' consent and can work without their parents' permission as early as 14, with children as young as 16 legally permitted to work in hazardous tasks.

In addition to the physical hazards associated with agriculture, farmworker youth – particularly migrants – have poor educational attainment. Half the children who regularly perform farm work never graduate from high school (AFOP 2007), condemning them to continue the cycle of poverty. Children often work in the fields when school is in session, leaving less time to study, while migrant children may start the school year late, stop early experience frequent changes of school. Parents often have limited ability to help children succeed in school due to low educational levels, limited ability to communicate with teachers and limited ability to navigate American school systems.

Educational attainment is hampered by a lack of access to quality early childhood education. Most children are not eligible for Migrant Head Start, which is limited to children of migrants. Informants note that most childcare consists of unlicensed home family day care centers, where providers offer little in the way of early childhood stimulation, social skills or academic preparation. Informants also note that farmworker homes often lack many opportunities for early childhood stimulation, with little in the way of books or toys stimulating mental development.

Access to post-secondary education is limited for farmworker children due to lower educational performance, limited awareness of how to apply to college, limited options for financial assistance and widespread belief that undocumented children may not attend college in the U.S. Many parents do not support children – particularly girls – leaving home to attend college. Informants note that some families are concerned about their children obtaining a higher education due to fears that they will look down on them.

Children of indigenous farmworkers face a particular set of challenges. Particularly low levels of education and literacy among parents make it difficult for them to help children with schoolwork. Informants report widespread bullying of indigenous children at school. They also note that some families encourage children to drop out of school to work, with others may not enroll middle and high school age children in school when they arrive in the U.S.

PRINCIPAL ISSUES AFFECTING AGRICULTURAL WORKERS

HEALTH

Health Status

Many farmworkers suffer from poor physical health, a function of poverty, stress, poor diet and limited access to preventive and primary health care services. Farmworkers suffer from disproportionately high rates of diet related diseases such as diabetes, obesity, hypertension, and anemia. The California Agricultural Worker Health Study (CAWHS) (Villarejo et al. 2000) found that 18% of male farmworkers had at least two of three risk factors for chronic disease: high serum cholesterol, high blood pressure, or obesity. Further, 81% of men and 76% of female study subjects were overweight, with obesity rates of 28% and 37% respectively. Despite the physical nature of agricultural work, farmworkers exhibit worse indicators for diet related conditions than both non-farmworker Hispanics and the general population.

Oral health is a significant challenge for agricultural workers as well, with farmworkers exhibiting 150 to 300 percent more decayed teeth than their peers (Hansen and Donohoe 2003). Villarejo et al. (2000) note that "clinically determined dental outcomes were startling. More than one-third of male subjects had at least one decayed tooth. And nearly four out of ten of female subjects had at least one broken or missing tooth." Tooth decay is the most common untreated health problem among migrant children as well, with at least half of farmworker children exhibiting "at least one and an average of three carious teeth" (Hansen and Donohoe 2003).

Access to Care

Poor health is exacerbated by limited access to preventive and curative health care services, with an estimated 70% of farmworkers lacking health insurance (Aguirre International 2005). In 2000, only 20% of farmworkers reported using any healthcare services during the preceding two years (Rosenbaum and Shin 2005), with 32% of men never having seen a doctor in their lives (Villarejo et al. 2000).

While the migrant health care system includes approximately 400 federally authorized clinics, existing centers have the capacity to serve fewer than 20% of the nation's farmworkers. Observers cite "mission drift" among some clinics, which have priced themselves out of the farmworker market, since farmworkers are not very lucrative patients.

Cost and language are among the most significant barriers to health care (Rosenbaum and Shin 2005). Additional barriers include limited transportation, lack of paid sick time, limited clinic hours, fear of lost wages or job loss when taking time off work and challenges locating clinics. Perceptions of discrimination and condescending treatment on the part of clinic staff are a deterrent to seeking care for many farmworkers.

Health beliefs and practices among indigenous farmworkers are distinct from western models. They face language barriers and limited access to culturally appropriate health care services. Trained interpreters are often not available in legal and health settings, which can result in the use of children or family members to interpret, presenting challenges regarding accurate

diagnoses and patient confidentiality. Given the high reliance on traditional healers among indigenous farmworkers, informants cited a need to vet traditional healers so patients can avoid fraudulent providers.

Cultural and linguistic barriers are exacerbated by the fact that indigenous farmworkers often do not self-identify as such due to concerns about racism and discrimination. The lack of self-identification makes it more challenging to provide culturally appropriate services for indigenous farmworkers.

Access to health care is challenging for migrant workers, who often lack a permanent "health home," with long term relationships with providers. Migrants may not know how to locate clinics in different areas and may have concerns about varying costs at different clinics. Access to medical records is challenging. Online systems that assign a unique ID to migrants have been developed, but adoption has been limited given varying levels of technology and internet access among rural clinics.

Migratory patterns can make follow-up care challenging as well. Some providers noted that they stop screening for certain conditions toward the end of the season because they know they will not be able to provide follow-up care. This is particularly problematic for migrants with conditions requiring follow-up care, such as diabetes, HIV or tuberculosis. Tracking immunizations among migrant children is also challenging, given the lack of a centralized immunization registry.

The Patient Protection and Affordable Care Act (ACA) is not anticipated to increase access to health insurance for most farmworkers. Eligibility is limited to U.S. citizens and permanent residents, thereby excluding the majority of farmworkers. Eligible workers may be excluded because of exemptions for employers with less than 50 full time equivalent employees. Kissam (2013) notes that as many as two-thirds of California farms could be considered "small" and therefore exempt from the requirement to provide health insurance under the ACA. A 90-day waiting period between hiring and coverage may effectively bar many seasonal workers as well. Observers note that the ACA may result in fewer full time and permanent employment opportunities for low-wage workers, as employers seek to reduce the numbers of workers for whom they must provide coverage.

Behavioral Health

In addition to physical health problems, farmworkers exhibit high rates of behavioral health problems, including depression, substance abuse, and domestic violence. Many undocumented farmworkers experience trauma as they journey to the U.S., including high rates of violence and sexual assaults against women. Once here, they experience poverty, loneliness and isolation, fear of deportation, job-related stress, poor housing conditions and intergenerational conflicts with children born or raised in the U.S.

Rates of substance abuse among farmworkers are relatively high, and alcohol and other drugs may be used to self-medicate for depression and chronic pain. High rates of amphetamine use have been noted among piece rate workers seeking speed and stamina.

Access to treatment for behavioral health concerns is limited, a function of limited access to health care in general, a lack of culturally and linguistically appropriate mental health services and social stigmas regarding behavioral health care.

Limited access to health care has resulted in high rates of emergency room use for routine health. Lack of attention to minor health problems can also result in chronic or acute conditions, with high rates of emergency room use and negative impacts on farmworker health and well-being.

Women's Health

Access to health care is higher among women, who are more likely to access services when seeking prenatal care. Nonetheless, only 42% of women in farmworker families sought early prenatal care in 2001, compared with over three-quarters (76%) of women nationally (Rosenbaum and Shin 2005). Women of reproductive age are susceptible to the impacts of pesticides, which can cause birth defects, cancer, miscarriages and contamination of breast milk. Informants note that lactating women rarely have access to adequate facilities for breastfeeding or expressing milk at agricultural workplaces.

Given their role as primary caregivers for children, women face job insecurity and lost wages, since they are generally responsible for staying home with sick children or taking them to doctor appointments. Women with children are also more likely to be employed on a part-time or seasonal basis, with reduced eligibility to health insurance through the Affordable Care Act.

Domestic violence is a serious threat to women's health. Informants cite high rates of domestic violence against female farmworkers. Women often remain in abusive situations due to fears of lost income, separation from children, homelessness and lack of awareness that domestic violence is against the law. Undocumented women also fear deportation if they leave abusive partners. Many are unaware of legal protections for undocumented women experiencing domestic violence.

Diet and Nutrition

An emerging area of concern is the increasing prevalence of diet-related conditions among farmworkers, including diabetes, obesity, hypertension, and anemia, among agricultural workers, who display worse indicators than non-farmworker Latinos. As with other immigrants, diet related conditions worsen with increased length of residence in the U.S. In a study of men living in migrant housing in the Salinas Valley, Winkleby et al. (2003) found a 35% increase in high fat/fast food consumption and a 50% increase in alcohol consumption for every five years of residence in the United States. Further, the prevalence of obesity increased 47% among male farmworkers in general, and 91% for men living in migrant housing facilities over a ten-year period (Winkleby et al. 2006).

Poor diet and nutrition is a function of several factors. Access to healthy food, including fresh fruits and vegetables, is often challenging in rural communities, many of which are classified as "food deserts." Food stamp utilization is low, due to real or perceived ineligibility, complicated application processes and concerns about applying for public assistance. Some informants noted that men at times oppose women's attempts to apply for food stamps, due to fears of deportation

or stigmas associated with receiving charity. Single young men typically have limited cooking skills and are more likely to rely on prepared food.

Despite employment in food production, farmworkers suffer from high rates of food insecurity. Wirth et al. (2007) found that 45% of farmworkers in Fresno County were food insecure, with inadequate access to food on a daily basis. A similar study in the Salinas Valley (Kresge and Eastman 2010) found that 66% of farmworkers were food insecure.

COMMUNITY AND ENVIRONMENT

Farmworker Communities

Many farmworkers reside in rural agricultural communities, which often have limited infrastructure and limited access to health and social services. Many of these communities are unincorporated and rely on counties, rather than municipalities for the provision of key services and infrastructure. Unincorporated communities are typically very underdeveloped and lack basic infrastructure and services such as potable water, electricity, sewage, paved roads, sidewalks, street lighting, and parks, which are found in most other communities.

Given the low incomes of most agricultural workers, many rural communities have a limited tax base, further limiting the provision of services, as well as infrastructure construction and maintenance. Their proximity to agricultural regions often results in poor air and water quality, with impacts on community health. Despite their proximity to agricultural production, many rural communities are considered "food deserts," with limited access to fresh fruits and vegetables and higher reliance on small stores offering unhealthy products at high prices. Limited transportation makes it difficult for rural residents to access supermarkets in neighboring cities.

Housing

Access to safe and affordable housing is one of the most challenging issues facing agricultural workers. Farmworkers live in a range of housing types, with over half (55%) residing in single-family units, 22% in apartments, 16% in trailers or mobile homes, and 7% in other types of housing, including dormitories, barracks, multifamily structures, motels or hotels (USDOL 2005).

A national survey of 4,625 farmworker housing units identified one-third as substandard, with 16% "moderately substandard" and 17% "severely substandard" (Housing Assistance Council 2001; McGaha, George and Kudlowitz 2006). Substandard conditions include mold, mildew, rodents and other pests, unsafe structures and lack of running water, sanitary facilities and heat and/or air conditioning. California Agricultural Worker Health Survey interviewers conducting household surveys identified many farmworker dwellings as "irregular structures not intended for human habitation, and one-sixth (17%) lack either plumbing or food preparation facilities, or both" (Villarejo and Schenker 2006).

Housing conditions are worst along the Eastern migrant stream, where 44% of units are severely or moderately substandard, compared with 32% of Western and 21% Midwestern units.

Landlords are often unresponsive or slow to respond to requests for repairs and farmworkers are often afraid to make waves for fear of being evicted. Farmworker advocates are often caught in a bind with respect to substandard housing as well, as owners may prefer to close substandard units rather than make repairs, resulting in the displacement of farmworkers to potentially worse housing or homelessness.

Migrant housing for unaccompanied males is particularly challenging, since large amounts of housing are required for short periods, an issue that housing authorities and farmworker housing providers have not been able to successfully address. Unaccompanied men often crowd into motel rooms or seek shelter in cars, shacks or fields with limited access to running water, cooking or sanitary facilities.

Almost half (48%) of farmworker housing is overcrowded, with 25% of units extremely overcrowded (Villarejo et al. 2000). Overcrowding can result in the spread of infectious disease and can negatively affect mental health.

Housing represents a significant cost burden for many farmworkers, with 34% paying more than a third of their income for housing. Housing burden is highest in the West and lowest in the East (McGaha, George and Kudlowitz 2006). The high cost of housing has forced many farmworkers to share housing with unrelated adults. Home ownership is out of the reach of most farmworkers. Settled farmworkers wishing to buy a house must often do so with several other families.

Disparities exist with respect to legal protections regarding farmworker housing. HUD standards for Section 8 housing are stronger than OSHA requirements for farmworker housing with respect to issues such as the maximum number of occupants per bedroom, availability of flush toilets, and acceptability of shared toilet facilities by multiple housing units (Villarejo et al. 2009).

Grower-providing housing is becoming increasingly scarce, due in part to increased enforcement of housing codes, grower unwillingness or inability to bring substandard units up to code and increased use of contract labor (Villarejo et al. 2009).Whereas 33% of farmworkers lived in grower-provided housing during the 1993-94 NAWS survey, that figure fell to 21% during the 2000-2002 survey period.

The decline in grower provided housing has had advantages and disadvantages for farmworkers. While it has meant reduced access to often free and conveniently located housing for farmworkers, grower-provided housing has often been substandard and unsafe. The provision of grower-provided housing also created an imbalance of power, with housing dependent on continued employment, making farmworkers less likely to leave abusive situations or request improvements. Nonetheless, the decline in grower provided housing has made it more difficult for farmworkers to find housing and has in many cases resulted in farmworkers living in even more substandard conditions.

Housing discrimination represents an additional challenge. That can take the form of NIMBYism and community opposition to farmworker housing, particularly for unaccompanied men. Observers also cite discrimination against farmworker families and landlord preferences for renting to unaccompanied men who can collectively pay higher rents.

Poor housing conditions and overcrowding have negative impacts on farmworker children, in terms of physical health, mental health and academic performance. Farmworker children may often be embarrassed about where they live and may be stigmatized or humiliated by children at school. This can also result in isolation, as children are embarrassed to invite classmates to their homes.

In addition to poor housing conditions, farmworkers complain of living in unsafe neighborhoods. In addition to personal safety, residence in unsafe neighborhoods has health impacts on children, who are less likely to play outdoors. Farmworkers also express significant concern about children's exposure to drugs and gang violence.

Transportation

Agricultural workers face numerous challenges with respect to safe and affordable transportation to work and in their communities. Many agricultural workers cannot afford cars and most are undocumented and have therefore not been eligible for drivers' licenses. Agricultural workers that are able to buy cars are often unable to afford insurance or to maintain them properly, resulting in an unsafe situation for workers and others. Further, workers driving without a license face the possibility of having their cars impounded. As a result of these constraints, 27% of farmworkers ride to work with *raiteros* (supervisors or other workers who offer rides in their vehicles) where they are subjected to high charges and transportation in unreliable and unsafe vehicles (Agricultural Worker Health Project 2013). Recent California legislation allowing undocumented immigrants to obtain a driver's license will have many positive impacts on farmworker access to transportation and traffic safety.

The Agricultural Industries Transportation Services (AITS) program was launched in Kings County in 2001 to address many of these issues. The program provides a safe and affordable vanpool alternative for farmworkers and currently operates over 150 vans in 20 California counties. The AITS program has however reported difficulties recruiting drivers, given the limited numbers of farmworkers with valid driver's licenses. Workers with licenses often prefer to drive their own cars or work as *raiteros*, charging others for rides.

Farm labor contractors and supervisors often offer workers rides to work. However, such rides are often offered at exorbitant rates and as a condition of employment. Farmworkers that do not accept these rides are at risk of losing their jobs. Despite federal regulations governing vehicles used to transport agricultural workers, these vehicles are often unsafe and poorly maintained and accidents are common. An additional issue is non-payment for time spent traveling to and from vehicles in company provided vehicles.

Transportation is a challenge for farmworkers in their personal lives as well. Many live in isolated, rural communities that are not well served by public transportation, making access to shopping and other services challenging. Agricultural counties such as Fresno, Tulare and Kern are large, making access to services located in county seats even more challenging than for farmworkers living in smaller counties with easier access to county seats.

Farmworkers living in rural communities must rely on friends and neighbors with cars for rides.

They are often charged for these rides, typically at very high rates. For example, farmworkers in California reported having to pay an average of $20 for rides to nearby towns (Wirth et al. 2007). Among other things, the high cost of travel to shop in neighboring towns has impacts on farmworker diet and nutrition, as farmworkers are more likely to shop at local convenience stores with limited access to fresh produce and other healthy food items.

Air and Water Quality

Poor air and water quality are significant issues for many rural communities. Local water sources are often contaminated with nitrates, arsenic and other harmful chemicals. Farmworkers and other residents must therefore buy drinking water, which represents a significant expense. In some cases, residents are not aware of these contaminants or their health impacts and continue drinking tap water. Poor drinking water quality may also be linked to higher consumption of sodas and other sugar-sweetened beverages, with negative impacts on the health of farmworkers and their families.

Air quality represents a problem for many rural communities as well, given the combination of dust, vehicle exhaust, pesticides and other agricultural chemicals. Farm vehicles are exempted from air quality standards, further contributing to poor air quality.

Farmworker homes often have high levels of pesticides (Bradman et al. 2006), which is of particular concern for families with children. Pesticide residues are often brought into the home on shoes and clothing, since most farms do not offer facilities where farmworkers can shower or change their clothes before leaving work. Homes and schools in agricultural communities are also often located near fields, where they may be exposed to pesticide drift.

WORKPLACE CONDITIONS

Agricultural work is characterized by a combination of low wages, seasonal unemployment, hazardous conditions, and low access to benefits such as health insurance, sick leave, vacation and retirement, which are common in other industries.

Work is often very fast-paced and complaints of rude, disrespectful treatment on the part of supervisors are commonplace. Most farms lack formal employment and human resource policies and procedures, such that farmworkers are often unaware of their rights and do not know how or where to file grievance procedures. Given limited job security, farmworkers are typically reluctant to complain or advocate for improved working conditions.

Employment and Income

Approximately 60% of farmworkers are employed in crop agriculture, while 40% work in the livestock production sector (Kandel 2008). Of farmworkers employed in the crop sector, one-third (35%) work in fruit and nuts, while 23% work in vegetables, 20% are in horticulture, 16% are in field crops, and 5% work in miscellaneous or multiple sectors (United States Department of Agriculture 2013).

Average hourly wages for farmworkers are approximately $9 per hour, compared with an average hourly wage of $18 per hour for non-farm employees (Carroll et al. 2011). Approximately 85% of crop farmworkers are employed on a seasonal basis, with an average of 35 weeks of employment per year (Carroll et al. 2011). The combination of low wages and seasonal un- and underemployment has resulted in very low annual incomes for most farmworkers. Approximately one-fourth (23%) live below the poverty line, with annual incomes of approximately $17,000 per year for individuals and $20,000 for families.

Legal Protections

The Migrant and Seasonal Agricultural Worker Protection Act of 1983 (AWPA) is the principal federal employment law protecting farmworkers. Among other things, AWPA obligates growers to keep records of employment, disclose job terms to workers at the time of recruitment, abide by the promised job terms, comply with safety standards when transporting or housing workers, and use only licensed farm labor contractors. The other principal piece of legislation regulating farm labor is the Fair Labor Standards Act (FLSA), which mandates minimum wage on farms of certain sizes and regulates child labor, discussed below.

Nonetheless, the legacy of "agricultural exceptionalism"[4] in the United States has resulted in fewer legal protections for farmworkers than those employed in other sectors, particularly in the areas of labor organizing, minimum wage, overtime pay and child labor laws. Agricultural workers are excluded from the *National Labor Relations Act* (NLRA) of 1935 and do not enjoy the same right to freedom of association afforded other workers, a situation that has had significant impacts on unionization.

Agricultural workers are also excluded from many of the protections offered other workers by the FLSA. While large farms are required to pay workers the federal minimum wage, farms employing less than 500 "man-days" of labor per quarter (i.e., about 6 full-time workers during a 3-month season) are not required to pay minimum wage.

The FLSA has never been amended to provide overtime pay for farmworkers, and only a few states have passed laws requiring it. Similarly, farmworkers are not entitled to mandatory breaks for rest or meals, workers compensation or unemployment insurance under the FLSA. While some states, such as California, Washington, and Oregon have enacted more stringent legislation protecting farmworkers, agricultural exceptionalism exists in these states too. For example, while farmworkers in California are entitled to overtime pay, that is only after 60 hours of work per week, not 40, the case for most workers.

Agricultural workplaces are also excluded from many of the Occupational Safety and Health Administration (OSHA) standards protecting workers, including those addressing electrocution and unguarded machinery, requirements for ladder safety, and whistle-blower protections. Farms with fewer than 11 employees are further exempt from all OSHA protections, meaning one-third of all farm employees are not protected by OSHA standards (Bon Appétit Management

[4] The term "agricultural exceptionalism" refers to the exclusion of farmworkers from major federal labor laws passed in the 1930s, based on opposition from growers who argued that agriculture is distinct from other industries and would not remain viable if subject to the same labor laws.

Company 2011).

The FLSA offers fewer protections for children working in agriculture as well, despite the hazardous nature of agricultural employment. The minimum age for employment in agriculture is 12, compared with16 for other industries. Further, the minimum age for performing jobs classified as "hazardous" is 16 in agriculture, compared with 18 for other industries.

Inequitable legal protections are compounded by limited enforcement of existing laws. Wage and hour violations are common, as are violations of health and safety and other regulations. Legal redress is challenging for farmworkers, given the high cost and the fact that legal service providers are prohibited from using federal funds to serve undocumented workers, even when rights afforded by U.S. law have been violated.

There have been increasing reports of human trafficking, forced labor, and modern day slavery in agriculture, a particularly egregious violation of federal law and human rights. The Coalition of Immokalee Workers has successfully prosecuted seven such cases involving over 1,000 workers in Florida, in which workers have been beaten, intimidated, and held captive in trailers. Similar cases have been documented in other states as well (Bowe 2007).

H-2A Guest Workers

The H-2A guest worker program allows agricultural employers to hire workers from other countries on temporary work permits for agricultural jobs that last ten months or less. Approximately 55,000 farmworkers enter the U.S. with H-2A agricultural visas each year, which provide certain legal guarantees regarding wages, housing, and transportation.

Nonetheless, violations of the H-2A program are purportedly "rampant and systemic" (Farmworker Justice 2011). Of particular concern is that H-2A visas are tied to a specific employer. Farmworkers are prohibited from changing employers and may only remain in the U.S. as long as they are working for the employer that brought them here. This dynamic gives growers an inordinate amount of power over workers, providing a strong disincentive for farmworkers to leave or report abusive situations lest they lose their right to remain in the U.S.

The above is compounded by endemic abuses in the recruitment of H-2A workers. Many farmworkers go into debt paying labor brokers thousands of dollars to obtain these visas, finding themselves in situations akin to indentured servitude as they work off their debt in the U.S.

Farmworker Justice (2011) reports that, "the H-2A recruitment system has led to numerous documented cases of debt-peonage, human trafficking, and forced labor," with numerous allegations of growers and labor brokers confiscating farmworkers' visas and identity documents.

The H-2A systems does not work well for employers either, who complain of bureaucracy and workers not arriving on time and costs of up to 40% more than hiring undocumented workers. Employers can also be sued by farmworker advocates because the complex H-2A rules make compliance difficult (Runsten et. al. 2013).

Farm Labor Contractors

There has been an increase in the number of farmworkers employed by farm labor contractors (FLCs) in the United States in recent decades. This dynamic is often attributed to the *Immigration Reform and Control Act* (*IRCA*) of 1986, which increased record keeping requirements and imposed sanctions for hiring undocumented workers.

There are approximately 1,350 registered farm labor contractors in California, with an unknown number of unregistered contractors, which are typically small operations run by former farmworkers. The use of farm labor contractors in California has grown significantly in recent years. Between one third and one half of farmworkers in California are hired via FLCs (Aguirre International 2005, Martin 2003; 2007). Farmworkers in California are twice as likely to be hired by farm labor contractors as in other states (Aguirre International 2005). When factoring in employment via other labor market intermediaries such as farm management companies and custom service providers, the percent of farmworkers not hired directly by growers is estimated at approximately 50%.

Growers cite a range of reasons for working with FLCs, including meeting short-term demand for labor; outsourcing of labor management responsibilities including recruitment, supervision, payment, record-keeping and insurance; reduced liability for non-compliance with immigration and employment laws; and avoidance of unionization and/or labor management disputes.

Farm labor contractors have a reputation for providing and are said to be responsible for many forms of abuse, including non-payment of minimum wage, withholding pay and charging extra for transportation, food or lodging. However, some observers claim that while these abuses may exist among unlicensed contractors, the majority of licensed contractors demonstrate levels of compliance with the law that are as high, if not higher than growers.

Many observers believe that FLC provide working "conditions inferior to those offered to farmworkers hired directly by agricultural employers" (Das et al. 2001), due to competition and underbidding by FLCs who try to recoup reduced income by exploiting farmworkers. Abusive and exploitative labor practices on the part of FLCs include wage and hour violations, charging extra for transportation, food or lodging, firing workers for complaining about illegal or dangerous workplace conditions, failure to provide drinking water and toilets, use of child labor and sexual harassment (Schacht 2000).

Nonetheless, observers note that many FLCs are large and established employers who no do not operate in the shadows of labor law. Given scrutiny because of their status as FLCs, many are said to be even more rigorous about compliance with labor law than direct hire employers.

Worker Treatment

Farmworkers and advocates cited disrespectful or humiliating treatment on the part of supervisors, along with constant rejoinders to work faster, as two of their greatest concerns with respect to workplace conditions. Complaints of unfair employment practices are widespread and supervisors are often said to engage in favoritism regarding relatives and others from their home regions with respect to issues such as hiring, firing, tasks, hours worked and promotions.

Farmworkers complain that there is little oversight of supervisor behavior and that growers, who may not speak Spanish and are not in daily contact with farmworkers, may be unaware of these dynamics.

Along with disrespectful treatment, wage and hour violations, including non-payment or under-payment for work performed are one of the most common complaints voiced by farmworkers. Informants note that wage and hour violations are particularly widespread among smaller farm labor contractors, who may underbid jobs and seek to recoup losses by underpaying workers.

Many of these issues are a function of limited farmworker awareness of legal rights, including the fact that most laws apply to undocumented as well as documented farmworkers. Given limited job security, however, even farmworkers that are aware of their rights are often afraid to speak up for fear of job loss and/or being blacklisted and jeopardizing future employment opportunities.

Limited opportunities for professional development or advancement are a significant concern regarding agricultural employment as well. Many farmworkers remain at the same job for many years, with little or no increase in wages or responsibility. Many employment training programs are federally funded and only serve documented farmworkers, thereby excluding the majority of workers. Growers have also complained of difficulties finding workers with higher level skills, noting that it can be challenging to encourage farmworkers to assume positions of greater responsibility since farmworkers may not want to jeopardize relationships with friends or family or may feel they can earn more as piece rate field workers than as supervisors.

Indigenous farmworkers face a particular set of challenges. The Indigenous Community Survey (Mines et al. 2010) found that indigenous workers are more likely to be paid by piece rate, are charged more for equipment, and are more likely to pay for rides to work than their non-indigenous counterparts. Indigenous farmworkers are also more likely to be undocumented than non-indigenous farmworkers, as reported by 85% of indigenous respondents to the NAWS survey (Aguirre International 2005). Historical patterns of discrimination against indigenous people are often replicated in the U.S., with indigenous farmworkers facing continued discrimination from employers, supervisors, co-workers and health and social service providers.

Women in the Fields

Female farmworkers experience a range of challenges beyond those faced by their male counterparts, including sexual harassment, discrimination in hiring and advancement, and the need to juggle work and household responsibilities. Female farmworkers also report discrimination in hiring, with reports of older, more experienced women being passed over in favor of younger, less experienced women.

Female farmworkers report high rates of verbal and physical sexual harassment, which can range from inappropriate comments to sexual assault. Harassment on the part of male supervisors is purportedly widespread, with threats of job loss or deportation if women do not provide sexual favors. In a recent study of 150 female farmworkers, 80% reported experiencing sexual harassment, a figure that significantly higher than the roughly half of women in the U.S. workforce who have experienced at least one incident of harassment (Southern Poverty Law

Center 2010).

Women are reluctant to stop or report harassment for numerous reasons, including fear of job loss or deportation, shame, stigma, lack of knowledge of where to report harassment, lack of awareness that sexual harassment is against the law, not wanting husbands or partners to find out and fear of being blamed for inviting sexual attention.

Female farmworkers also report difficulties accessing restrooms, which are often located far from where they may be working. They report increased instances of urinary tract and bladder infections as a result of an inability to access restrooms in a timely manner. This may also result in women drinking too little water during the summer, with increased susceptibility to heat stress.

OCCUPATIONAL HEALTH AND SAFETY

Accidents and Injuries

Agriculture is one of the most hazardous occupations in the U.S. There were 23.3 occupational deaths for every 100,000 agricultural workers, compared with 3.2 deaths per 100,000 workers in all other industries (Bureau of Labor Statistics 2012). The National Institute of Occupational Health and Safety (NIOSH 2013) estimates that on average 243 agricultural workers suffer lost-work-time injuries each day, with five percent of those injuries resulting in permanent impairment.

The principal occupational hazards affecting farmworkers include pesticide exposure; musculo-skeletal injuries associated with protracted stoop labor, heavy lifting, and repetitive motions; accidents and injuries associated with sharp tools, heavy machinery, agricultural vehicles and falls from ladders; respiratory, skin and eye conditions associated with exposure to agricultural chemicals and organic and inorganic dust; exposure to extreme heat and cold; heat stress; lack of access to clean and adequate drinking water and poor field sanitation.

Fewer than 25% of workplace injuries are covered by worker's compensation (Western Center for Agricultural Health and Safety 2012). Occupational injuries and illnesses often go untreated and may become chronic or disabling conditions, particularly as farmworkers age. Since long-term disabilities are generally not the result of a specific incident, it is difficult for workers to obtain compensation for them.

Pesticide Exposure

The Environmental Protection Agency estimates approximately 300,000 cases of acute pesticide exposure among agricultural workers each year. While pesticide use has declined over the past decade, more than 173 million pounds of pesticides were applied in California in 2010. Chemical and pesticide poisoning may result from "direct spraying of workers; indirect spray from wind drifts; direct skin contact with pesticide residues on crops; bathing in or drinking contaminated water; transfer of residues from contaminated hands while eating, smoking or defecating or bringing pesticide residues home on shoes and clothing" (Hansen and Donohoe

2003).

Pesticide exposure can cause a range of short- and long-term problems, including nausea and vomiting, rashes, dizziness, burning eyes, respiratory problems, as well a range of "agricultural cancers," birth defects, miscarriages, and neurological disorders.

Impacts on farmworker children, who are particularly susceptible to pesticides, include birth defects, hyperactivity, and cognitive impairment. In addition to pesticides, migrant workers are exposed to a wide variety of other carcinogens, including solvents, oils, fumes, ultraviolet radiation from chronic sun exposure, and biologic agents such as human and animal viruses.

California has one of the oldest pesticide illness surveillance systems in the country, which includes mandatory reporting by physicians. However, many pesticide-related illnesses go unreported because farmworkers do not seek treatment or because they are misdiagnosed or not reported by physicians.

Heat Illness

Heat illness is a serious concern facing farmworkers, who work in extremely high temperatures during the summer. At least 16 farmworkers have died since heat regulations were enacted in 2005, with many more experiencing heat illness. Outreach and enforcement have resulted in improved conditions on many farms, which are increasingly offering water, shade and rest periods. However, farmworkers and farmworker advocates report that problems persist and that compliance remains limited.

While water and shade are increasingly available, they are not always located in close proximity to workers. Workers are not always informed of their right to rest and shade, while some expressed concerns of being fired for taking too many breaks. Some farmworkers, particularly women, try to minimize water consumption in order to avoid using bathrooms, which can be dirty or far from fields. Workers paid on a piece rate basis are often reluctant to stop for water or to rest in the shade, as that may result in lost income. Some growers believe that farmworkers are not always aware of which drinks hydrate them, and may consume soda or energy drinks which are dehydrating, rather than water.

Additional Occupational Health and Safety Concerns

Additional occupational health and safety issues include the following:

Piece rate workers often prefer not to take breaks, which represent a loss of income. Many work quickly to maximize income, resulting in injuries and use of stimulants to promote speed and endurance.

Farmworker informants cited a trend of speeding up of agricultural vehicles during harvesting, which they claim has resulted in higher rates of musculoskeletal injuries and less time to drink water, take breaks or use restrooms. They felt speed ups were a function of foremen competing with one another and trying to impress supervisors, and wondered to what extent growers are actually aware of these practices.

Informants also noted that while night work reduces exposure to heat, health and safety concerns include increased slips and falls; issues affecting women's safety and reports of snakes, coyotes and other dangerous animals.

The dairy sector, which employs many agricultural workers, poses a particular set of occupational health and safety issues. These include accidents and injuries associated with confined spaces and contact with animals; high levels of automation and time pressures on employees, coupled with few relief workers, making it difficult for employees to take breaks; limited provision of personal protective equipment, particularly rubber boots, which are necessary given often wet floors; and limited access to clean eating facilities.

Training can present a problem for indigenous farmworkers, who often have passable but not fluent Spanish. This can create the impression that they understand training information while in fact experiencing significant gaps in comprehension.

Compliance and Reporting

Informants cited insufficient compliance with occupational health and safety regulations, which is exacerbated by understaffing at Cal/OSHA, which conducts limited inspections and is said to impose reduced fines in some cases. Informants also noted that compliance is driven by enforcement. As such, agricultural employers are most likely to address issues that are most scrutinized and may pay less attention to other health and safety concerns, which may be more prevalent or severe.

Many workplace injuries go unreported, a result of supervisors minimizing accidents and injuries, health care providers not always recognizing health problems as work-related and workers preferring not to report problems to avoid lost income or jeopardizing their jobs. Health and safety bonuses are often team-based, representing a disincentive to report accidents and injuries.

Despite a requirement for all employers to have Workers Compensation insurance, some – particularly smaller employers – do not, making it difficult for their employees to obtain adequate treatment. The Watsonville Law Center has been working to address this by helping community health centers better identify work-related injuries and receive reimbursement from Workers Compensation, while expediting the process for employers to obtain Workers Compensation insurance.

EMPLOYER PERSPECTIVES

Approximately half (47%) of California 81,500 farms rely on hired labor (UDSA NASS 2007). In order to develop a comprehensive e research agenda, interviews were conducted with agricultural employers, including growers and representatives of grower and farm labor contractor associations. The goal of these interviews was to elicit the main issues confronting employers with respect to farm labor, perceptions of the principal issues affecting farmworkers

and win-win approaches that could potentially benefit employers and farmworkers.

Most growers claimed farm labor shortages are the most significant issue facing them, citing record shortages in 2012 and losses of thousands of dollars per day. They cited factors beyond their control as contributing to farm labor shortages, including immigration policy restricting the flow of labor and economic growth in Mexico, which has resulted in reduced immigration to the U.S. Some growers cited interest in increased mechanization to address farm labor shortages, noting however the challenges of mechanizing specialty crops, which are easily bruised. Current immigration policy also impacts access to capital. As a grower explained, "On any given day the banker could say 'I don't want to loan you money because you're a sitting duck for an immigration raid'."

Growers cited challenges complying with the numerous laws governing farm labor and called for assistance translating "the legalese of regulations into practical, day-to-day operating systems." Some cited concerns regarding attempts to bring laws governing agricultural labor in line with other industries, claiming for example that providing overtime after 8 hours a day or 40 hours a week would make California agriculture uncompetitive and could result in less employment, since growers would need to hire more workers to minimize overtime.

Growers with high rates of retention cited concerns associated with an aging workforce, including increased health insurance and worker's compensation costs as well as declining productivity.

Employer Perceptions of Market-Based Efforts to Improve Farm Labor Conditions

Recent years have witnessed efforts to implement a fair trade model in the U.S. promoting increased market share or price premiums for growers offering improved wages, benefits and other farmworker conditions. With respect to higher wages, Martin (2010) notes that increasing farm wages by 40% would push annual incomes for most farmworkers above the federal poverty line, but would signify only a $16 annual increase in the price of food for most households.

The principal certification labels include the Food Alliance, Food Justice Certified and the Equitable Food Initiative (EFI). Food Alliance and Food Justice Certified target small and medium sustainable or organic farms, while EFI targets the large, conventional farms employing the majority of farmworkers. The EFI label has the support of Costco and may have the potential for broad adoption among growers. Non-certification efforts include the Coalition of Immokalee Workers "Campaign for Fair Food," through which retailers pay an extra penny per pound of tomatoes, which is passed on to workers, as well as compliance with a code of conduct for farm labor conditions.

Most of the growers and grower representatives interviewed were not very supportive of market-based efforts, although some did see this as an opportunity to differentiate their products and expand sales. Several noted that buyers are increasingly asking questions about farm labor practices, which they find invasive. They expressed concerns that they will need to shoulder the additional costs of fair labor certification, with no price premiums to offset increased costs of production. Some also questioned the need for market-based efforts, since they believe that U.S.

labor laws already provide adequate protections for farmworkers. Some growers also felt that market-based efforts could result in increasing mechanization and/or production of less labor intensive crops, with reduced demand for farm labor.

Additional challenges associated with market-based efforts include ensuring compliance on the part of farm labor contractors and other labor market intermediaries and monitoring labor practices along the supply chain – processing, distribution and retail.

RESEARCH GAPS

Despite the significant body of research on farmworkers, significant gaps remain in a number of important areas.

Up-to-Date, Local and Interdisciplinary Data

The most comprehensive source of data on the demographic, employment and health characteristic of agricultural workers is the National Agricultural Worker Survey (NAWS). Nonetheless, the NAWS has several significant limitations: it collects no data on workers exclusively employed in the livestock sector; it is an employment-, not household-based survey and may therefore not be fully representative of agricultural workers; it is based on self-reported data; and data are not available at the state level, with the exception of California. Data are not available at the local level in California. A number of informants expressed a need for accurate data at the county and local levels in order to better identify the needs of farmworkers and develop funding proposals using accurate and up-to-date information.

There is also a need for more research combining data from different disciplines to identify the intersection of different issues affecting farmworker and rural communities. The UC-Davis Center for Regional Change has been conducting innovative research combining data on hazardous environmental exposure and social vulnerabilities in rural communities as a means of identifying Cumulative Environmental Vulnerability Zones. These studies, which are conducted in partnership with local community based organizations, provide a wealth of data at the census tract level that communities can use to identify locations and populations at greatest risk. Cumulative Environmental Vulnerability Assessments have been conducted for the San Joaquin and Coachella Valleys to-date (London et al. 2011, London et al. 2013).

Health Status

Research on farmworker health has led to important advances in farmworker health and wellbeing. The California Agricultural Worker Health Study (Villarejo et al. 2000) represents the nation's first comprehensive, statewide health survey of hired agricultural workers. The findings have been used extensively by a broad range of health care providers and other farmworker serving organizations, but are quickly becoming out of date. Many stakeholders cited the need to replicate that study, which would ideally be done on an on-going basis.

Longitudinal studies such as MICASA (http://micasa.phs.ucdavis.edu/) and CHAMACOS (http://cerch.org/research-programs/chamacos/) have been researching the impacts of farm work

and residence in agricultural communities on the health of farmworkers and accompanying family members. There is however a need for more and longer term research in this regard. In particular, informants cited a need for more research on the long-term impacts of pesticide exposure.

Alderete et al. (1999; 2000) have conducted important research on mental health issues affecting migrant farmworkers. There is a need for more research on issues including depression, substance abuse, domestic violence and intergenerational conflicts between immigrant parents and children born or raised in the U.S. There is also a need for more research on culturally competent service delivery models to effectively address these issues.

Workplace Conditions

Numerous advocacy organizations have issued reports documenting abusive workplace practices, however there is little in the way of rigorous data documenting the nature and extent of these problems, or variations based on crop, regions, ethnicity or type of employer. There has also been little research documenting the costs and impacts of positive farm labor practices on farmworkers and farm operations (Strochlic and Hamerschlag 2005, Rittenhouse 2013). This type of research – particularly documenting farm level benefits – will be essential for more widespread adoption of market-based efforts promoting improved farm labor conditions.

Housing

Several studies have conducted comprehensive documentation of farm labor housing conditions using census data (Kandel 2008) and first-hand visits (Housing Assistance Council 2001). The CAWHS provides limited data on farmworker housing conditions in California, while others have documented farmworker housing conditions in the eastern United States (Early et al. 2006). An emerging body of research has been documenting the impacts of substandard housing on the health of farmworkers and their family members as well (Villarejo and Schenker 2006; Villarejo et al. 2009; Bradman et al. 2005).

There is however no comprehensive data on farmworker housing conditions in California addressing factors such as quality, crowding, cost burden and availability of housing for sub-populations such as unaccompanied migrants. Villarejo (2010) notes that, "There is only limited information regarding California's farm labor housing. Importantly, there has never been a statewide, cross-sectional survey of farm labor housing; no objective measure of quality and compliance with housing codes among an accurately representative sample of dwellings."

A pressing area of research is the identification of viable housing models for migrants seeking employment during the harvest or other peak periods, when large numbers of workers require housing for short periods of time.

There is also a need for research on the impacts of substandard housing on children's physical and behavioral health, including the ways that overcrowding, residence with unrelated adults and living in unsafe neighborhoods impact children's behavioral health, academic performance and involvement with the criminal justice system.

Transportation

There has been limited research on transportation and farmworkers, despite the importance of transportation in terms of access to work and household needs. Areas of inquiry include comprehensive data regarding farmworker transportation patterns and costs; key challenges farmworkers face with respect to transportation; impacts of limited rural transportation on access to shopping, education and health and social services; and the impacts of California legislation allowing undocumented residents to obtain driver's licenses.

There is also a need for research evaluating the impacts of van pool programs on workers and agricultural operations, particularly in light of new legislation increasing access to driver's licenses among undocumented residents.

Women

There is little quantitative data on the prevalence of sexual harassment of female farmworkers or the extent of domestic violence in the home. There is also a need for more data regarding women's awareness of resources for domestic violence and knowledge of laws prohibiting domestic violence protecting undocumented victims from deportation.

Farmworker women have also cited behavioral health as one of their top concerns. There is a need for more empirical data regarding the nature and prevalence of behavioral health concerns among farmworker women, as well as the identification of culturally appropriate and affordable models for addressing these issues.

RESEARCH RECOMMENDATIONS

The assessment identified a large number of recommendations for future research. While there are an almost unlimited number of avenues of inquiry, these research questions were put forth by key informants interested in access to this information as a means of promoting improved conditions for agricultural workers. Key recommendations are below.

Demographic and Employment Data

- What are the demographic and employment characteristics of farmworkers in California and at the local level? Data needs include numbers of farmworkers; age, gender, ethnicity, socioeconomic status and household structure; places of residence and employment; employment activities; documentation status and migratory patterns.[5]
- What are project immigration trends to the U.S. and migration within California? How will

[5] As a key informant in the planning department of a large farmworker serving organization explained, "Accurate, up-to-date data on farmworkers living in the San Joaquin Valley is nowhere to be found. When assembling proposals to describe the need of the communities we serve, I often have to make inferences to the larger Latino population, which cannot specifically represent the need of farmworkers."

that affect the demand for housing, health care and other services?
- How will comprehensive immigration reform impact farmworker conditions?
- What percent of indigenous workers speak little or no Spanish?
- What is the prevalence of sexual harassment and domestic violence affecting female farmworkers? What is prevalence of miscarriages among farmworker women? What are the associations with employment in agriculture?
- How do children of farmworkers compare with other immigrant children with respect to educational performance, high school graduation and access to higher education?
- To what extent do farmworkers have access to mobile and other technology? How can that be leveraged to promote improved farmworker conditions, e.g., through education, training, recruitment, disseminating health and safety information, thanking and motivating farmworkers and organizing farmworkers?
- What happens to settled farmworkers when there is less employment in the winter? What are the impacts of reduced income on housing, health and wellbeing? What are impacts on behavioral health, including depression, alcohol or other substance abuse and domestic violence?
- What happens to older farmworkers when they are no longer able to work? Are they able to support themselves? What are their principal needs and to what extent do they have access to health, housing, transportation and other services?

Occupational Health and Safety

- How do accidents and injuries vary by factors including type of crop, industry code, worker ethnicity, payment systems (hourly, piece rate, other) and type of employment (direct hire vs. contract labor)?
- What percent of agricultural employers have Illness and Injury Prevention Programs?
- What are the most effective vehicles for transmitting health and safety information? To what degree do indigenous farmworkers absorb health and safety information? What are the most effective ways of transmitting that information to indigenous workers?
- How does the provision of health and safety training compare between growers and farm labor contractors?
- What are the long-term and cumulative impacts of pesticides on the health of agricultural workers and family members?
- What are the impacts of applying restricted use pesticides in combination with one another?
- What are the costs to growers of using alternatives to fumigants that are better for worker health?
- What are the psychological impacts of pesticide drift on workers?
- What is effect of exposure to agricultural chemicals on miscarriages? Are certain chemicals more associated with miscarriages?
- What are the costs and benefits of paying piece rate workers for time spent taking breaks? What are the potential benefits to growers in terms of worker productivity and accidents and injuries?
- How would increasing rates of Workers Compensation coverage impact rates among all employers?
- What percent of agricultural workers are unable to work due to employment-related disabilities? What percent of those receive worker's compensation insurance? What is the

cost to clinics and hospitals of treating workers not covered by worker's compensation? What are the economic and other impacts when spouses take on the role of primary wage earners?

- What percent of agricultural workers do not report injuries for fear of lost income, job loss or loss of health and safety bonuses?
- How likely are indigenous farmworkers to report accidents and injuries? How likely are they to receive adequate medical care?
- To what extent are indigenous farmworkers able to move out of lower end jobs in agriculture? To what extent are they able to move out of agriculture entirely, to other, more desirable types of employment?
- What are the impacts of mechanization on worker wellbeing, including musculoskeletal injuries?
- What is the prevalence of vehicle "speed ups" and impact on worker health? To what extent are growers aware of these conditions?

Health and Access to Health Care

- What is the extent of undercounting of farmworkers at community clinics?
- To what extent do health care providers inquire about employment in agriculture? To what extent do farmworkers define themselves as such when seeking care? How can more accurate counting of farmworkers be promoted?
- How can traditional and western health care providers and systems be better integrated to improve access to care?
- How will the Affordable Care Act impact access to care among agricultural workers? To what extent will agricultural employers be able to afford to offer workers insurance through the health exchanges?
- How replicable are grower-sponsored clinics? What are the costs and benefits for sponsoring farms? How will the Affordable Care Act affect company-sponsored clinics?
- Does employer-provided health insurance result in lower workers compensation rates? Do workers compensation rates decrease with a healthier workforce? Are insured employees less likely to claim that health problems are work-related?
- How prevalent is food insecurity among farmworkers? What are the main barriers to increased utilization of food stamps and WIC among eligible populations?
- To what extent are domestic violence agencies serving female farmworkers? How can domestic violence agencies better serve women in agriculture?

Housing

- What is the overall demand for farmworker housing? How does that vary by region and household composition?
- What are the areas of greatest demand for seasonal migrant housing? What are viable models for providing migrant workers with housing during periods of peak demand for labor?
- What are the impacts of home ownership on farmworkers and children's health and educational achievement? What are the impacts of home ownership on farmworker civic engagement in their communities?
- What are the impacts of self-help housing programs? Which types of farmworkers are most able to benefit from these programs?
- What are the community level benefits of improved farmworker housing?

- What are the benefits of improved farmworker housing for growers, in terms of worker productivity, access to a stable workforce, etc.?
- What are the costs and benefits of grower-provided housing? Is grower-provided housing best located on the farm or in nearby communities?
- What are the impacts of substandard housing on children, including physical and behavioral health and academic performance?

Farmworker Communities

- What is the status of infrastructure and service provision in unincorporated farmworker and rural communities?
- What are the impacts of agriculture on air and water quality in rural communities? How do factors such as the exemption of farm vehicles from air quality standards impact community health?
- How does lack of jurisdictional oversight or political power contribute to decreased regulation or enforcement of air quality standards in farmworker communities?
- How effective are efforts to promote civic engagement in farmworker and rural communities? How can greater civic engagement be promoted?
- What are farmworker contributions in terms of taxes and economic activity? What is the net impact when the costs of publicly funded services are factored in?

Workplace Conditions

- To what extent have farmworker wages kept up with inflation and agricultural industry profits?
- To what extent are growers aware of abuses perpetrated by supervisors and farm labor contractors? How can growers better monitor treatment of workers?
- To what extent are farmworkers interested in opportunities for advancement and professional development? What are the best ways to promote that?
- To what extent do children of farmworkers think about professional careers in agriculture? Can agriculture be promoted as a viable career path for children of farmworkers?
- What are the impacts of fair labor certification on farmworkers in terms of wages, benefits, working conditions, health, housing and other factors?
- What are the costs and benefits of improved labor practices for growers? Which workplace conditions do workers most value?
- To what extent do consumers support improved farm labor conditions? What is consumer support for voluntary certification schemes?
- Will improved conditions for farmworkers have benefits for rural communities, local economies, schools, etc.?
- How do farm labor contractors set their rates? How can growers determine what realistic rates are? What is the minimum rate FLCs need to charge in order to cover costs? Do higher rates signify better conditions? Do low rates signify red flags for growers?
- How do growers recruit workers with specific skills? To what extent is that still done by word of mouth? How can cell phones and related technology assist with that?
- How will increasing use of robots and other “smart farm” technologies affect employment patterns and demand for labor?

Public Policy

- What are the public sectors costs of low wages and poverty among agricultural workers? To what extent is the public sector subsidizing low wages through additional services? What benefits would improved wages and working conditions bring to rural communities? What are creative models for improving farmworker conditions while maintaining the profitability of farm operations?
- What are the public sector costs of providing health care for agricultural workers not insured through their employers? To what extent are taxpayers subsidizing the agricultural industry through the provision of publicly funded health care?
- Why is there a disconnect between agricultural prosperity and the well-being of rural communities? Is there a correlation between the increasing scale of agriculture and declining social and economic indicators in counties such as Fresno?
- What is the return on investment of job training programs for agricultural workers? What are the impacts of those programs on local economies? What are the principal skill sets that agriculture will require in coming years? How can training programs ensure those needs are being met?
- How will the Deferred Action for Childhood Arrivals program impact higher education outcomes among children of farmworkers?

OUTREACH AND COLLABORATION RECOMMENDATIONS

In addition to research questions, the assessment identified opportunities for increased collaboration with and outreach to farmworkers, farmworker serving organizations, growers and the researchers. The principal recommendations are below.

UC Outreach to Farmworker Communities

- Increased collaborations between UC campuses and nearby farmworker communities, including mentorship programs for farmworker youth, health internships and assistance with health and social services.
- Increased collaboration between SAREP and the UC-Davis Clinical and Translational Science Center Community Engagement program to better serve farmworker communities in the Davis area.
- Fair labor certification programs will require assistance with outreach and training to help growers implement and comply with fair labor standards and to train farmworkers to ensure they understand fair labor standards. Informants noted that this is a role that could potentially be filled by UC Cooperative Extension.

Health Outreach

- Assistance for hospitals and clinics to develop improved mechanisms for identifying work-related illnesses and injuries.
- Development of a training program to familiarize physicians with the legal requirements for reporting work-related injuries and pesticide exposure.
- Development of systems allowing traditional and western providers to share knowledge of patients. Training for traditional healers to refer patients to western providers when health needs are beyond their abilities.

- Increased occupational health training for health care providers in farmworker communities.
- Outreach to increase women's awareness of what constitutes sexual harassment, discrimination and domestic violence and how to seek help.
- Outreach to agricultural employers to provide appropriate facilities for farmworker women to breastfeed or express milk while at work.

Workplace Outreach

- Development of more effective health and safety training materials and training methods.
- Assistance to help growers better comply with farm labor regulations.

Collaborations between Farmworker Researchers

- The majority (77.8%) of farmworker research survey respondents cited a need for increased collaboration among farmworker researchers, while 2.2% did not and 20.0% were unsure. Respondents provided the following recommendations regarding ways SAREP could support that:
- Hold an annual conference for farmworker researchers, community-based organizations and public policy advocates. The conference should include roundtable discussions and provide time for researchers to present their projects. A research agenda should be developed based on results of meeting.
- Create a listserv or a website for networking and information sharing between researchers.
- Identify partnerships between researchers and help them connect via websites or online forums.
- Publicize current projects to increase awareness of research being conducted by farmworker researchers in California and elsewhere.
- Provide support for connecting researchers and networking through social media, blogs and other forms of communication.
- Provide funding for research projects.

Collaboration between Farmworker Researchers and Community-Based Organizations

- The majority (78%) of respondents to the farmworker researcher survey cited a need for increased collaboration between farmworker researchers and community-based organizations. Recommendations for ways SAREP could support this included the following:
- Helping CBOs develop evidence-based programming based on current farmworker research.
- Helping CBOs access demographic and other data when applying for funding.
- Linking CBOs with farmworker researchers who can conduct independent third party evaluations documenting the impacts of those programs, with recommendations for refining programming, replicating successful efforts and data for future fundraising.
- Helping CBOs develop internal monitoring and evaluation systems.
- Developing a database to link CBOs with farmworker researchers based on geographic region and issue area.
- Creating a newsletter or blog with information and updates from CBOs and researchers.

Farmworker Survey Respondents: Research and Outreach Recommendations

Respondents to the farmworker researcher survey offered a number of recommendations for research and outreach to improve farmworker conditions, including the following:

- Research linked with public policy to promote information that is more relevant to public policy initiatives.
- Participatory action research projects linking farmworker communities with public policy initiatives.
- Research on migration and social networks between the U.S. and Mexico.
- Research on career pathways out of agriculture.
- Research on how to best serve monolingual indigenous speakers.
- How to secure a tax and revenue base for unincorporated rural communities.
- Research on more effective use of technology to increase agricultural safety.
- Longitudinal studies on the effects of living and working conditions on farmworker health and behavioral outcomes.
- Research on pesticide monitoring and public awareness of pesticides in communities near fields that are routinely sprayed.
- Multi-dimensional research addressing issues affecting farmworkers, including immigration, migration and racism.
- Research on the effects of agricultural dust and air pollutants on farmworker health.
- Analysis of large data sets to test relationships between environmental issues and worker health.
- Creation of a glossary of agricultural ergonomic terms.
- A requirement that principal investigators have an advisory committee with at least one representative working directly with farmworkers.
- A requirement that UC staff and faculty present research findings in communities where research was conducted.
- Formation of regionally based farm labor advisory committees.
- Reinstatement of the Farm Safety Program and Agricultural Personnel Management program to address work conditions.
- Research demonstrating that improved farmworker conditions is a win-win situation for growers and agricultural workers.
- Inclusion of farmworkers in discussions of agriculture, sustainability and the environment.

Additional Farmworker Researcher Comments

In addition to research and outreach recommendations, the researcher survey elicited thoughts on how SAREP can best promote improved farmworker conditions. The principal recommendations are summarized below:

Survey respondents provided additional comments about SAREP's role in research, including the following:

- Efforts to promote improved farmworker conditions have historically fallen short because systemic change is needed. SAREP needs to be willing to tackle tough systemic issues.
- The legacy of prioritizing industrial growers and lack of support for farmworkers needs to be considered and dealt with first.

- SAREP should advocate on behalf of farmworkers and support synergy between farmworker groups.
- SAREP should address issues such as racism and immigration.
- SAREP should prioritize reaching out to communities directly.

CONCLUSIONS

This report represents an effort to develop a research and outreach agenda to improve living and working conditions for agricultural workers in California. The findings are based on the perceptions of current and former agricultural workers, as well as stakeholders directly serving farmworkers and rural communities. It is our hope that conducting research and outreach that has been identified by community-based stakeholders – and will support their efforts – will result in tangible improvements for farmworkers, agricultural employers and agricultural communities throughout California.

Given the high levels of need, it is difficult to prioritize which of the many research questions and outreach needs identified in this report SAREP should focus on. Nonetheless, research on the following issues may have significant impacts in terms of improving living and working conditions for agricultural workers:

- *Health Care:* Impacts of the Affordable Care Act on farmworker access to healthcare and the viability of farm operations.
- Health *Care:* Impacts of the Affordable Care Act on the availability of permanent and full-time employment for farmworkers.
- *Technology:* Impacts of increasing use of robots and other "smart farm" technologies on labor and employment patterns, particularly in the specialty crop sector.
- *Technology:* Identification of ways to improve farmworker wellbeing through technology and social media.
- *Housing:* Identification of affordable and viable models for improved farmworker housing, particularly for unaccompanied migrant workers.
- *Farm Labor Intermediaries:* Labor conditions among direct hire employees and contract labor.
- *Market-based Efforts*: Impacts of voluntary "fair labor" certification and related efforts on farmworker well-being, the viability of agricultural operations and mechanization.

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APPENDIX: KEY INFORMANT INTERVIEWEES

Key Informant	Organization
AG Kawamura	Orange County Produce
Al Hernandez-Santana	California State Rural Health Association
Amy Wolf	AgSafe
Anna Garcia	California Rural Legal Assistance
Anne Katten	CRLAF
Araceli Gonzalez	Proteus
Arnoldo Torres	Torres and Torres
Asa Bradman	Center for Environmental Research and Children's Health (CERCH), UC-Berkeley
Bert Mason	Emeritus, Center for Agricultural Business, Fresno State University
Bryan Little	California Farm Bureau
Camila Chavez	Dolores Huerta Foundation
Caroline Farrell	Center on Race, Poverty and the Environment
Cesar Hernandez	Reiter Affiliated Companies
Chris Paige	California Human Development Corporation
Danielle Lee	UC-Davis Dining Services
David Bacon	David Bacon Photography
David Runsten	Community Alliance with Family Farmers
Diana Tellefson Torres	UFW Foundation
Dolores Huerta	Dolores Huerta Foundation
Don Villarejo	Director Emeritus, California Institute for Rural Studies
Dori Rose Inda	Watsonville Law Center
Ed Kissam	JBS International
Farmworker Leadership Committee Members	California Rural Legal Assistance
Fausto Sanchez	California Rural Legal Assistance
Genoveva Islas-Hooker	Central California Regional Obesity Prevention Program
Graciela Soto Perez	Tulare Community Health Clinic
Guadalupe Sandoval	California Farm Labor Contractor Association
Howard Rosenberg	Agricultural Personnel Management Program
Ilene Jacobs	California Rural Legal Assistance
Jeff Ponting	California Rural Legal Assistance, Indigenous Project
Jesus Gamboa	Proteus
Jillian Hopewell	Migrant Clinicians Network
Joanne Ikeda	Department of Nutrition, UC-Berkeley
John Diener	Red Rock Ranch
Juan Uranga	Center for Community Advocacy
Julia Belliard	Agricultural Personnel Management Program

Julie Montgomery	California Rural Legal Assistance Foundation, Agricultural Worker Health Project
Katerina Friesen	Community Roots Garden
Kathleen Thompson	Limoneira Company
Kirke Wilson	Rosenberg Foundation
Kristian Moeller	GLOBAL GAP
Lali Moheno	Lali Moheno and Associates
Leoncio Vasquez	El Centro Binacional para el Desarrollo Indígena Oaxaqueño (CBDIO)
Luawanna Halstrom	National Agricultural Employers Association
Luis Magaña	American Friends Service Committee, Organización de Trabajadores Agrícolas de California
Marc Shenker	Western Center for Agricultural Health and Safety, UC-Davis
Margaret Reeves	Pesticide Action Network North America
Margaret Sawyer	Mixteco/Indígena Community Organizing Project (MICOP)
Marilyn Winkleby	Stanford Prevention Research Center
Matt Rothe	Stanford Dining
Michael Marsh	California Rural Legal Assistance
Michael Meuter	California Rural Legal Assistance, Migrant Project
Mily Treviño-Sauceda	Organización en California de Líderes Campesinas
Peter O'Driscoll	EquiTABLE Food Initiative
Phil Martin	Department of Agricultural & Resource Economics, UC-Davis
Phoebe Seaton	California Rural Legal Assistance, Community Equity Initiative
Rick Mines	Indigenous Farmworker Study
Rob Roy	Ventura County Agricultural Association
Rob Weiner	California Coalition for Rural Housing
Ron Hughes	Agricultural Industries Transportation Services
Sal Arriaga	California Migrant Education Program
Sandy Beales	Food Link for Tulare County
Sandy Nichols	Indigenous Farmworker Study
Suguet Lopez	Organización en California de Líderes Campesinas
Susan Kegley	Pesticide Research Institute
Teresa de Anda	Californians for Pesticide Reform
Ventura County Farm Worker Housing Task Force	
Yvonne Yen Liu	Applied Research Center