2010 CENSUS ENUMERATION OF IMMIGRANT COMMUNITIES IN RURAL CALIFORNIA: DRAMATIC IMPROVEMENTS BUT CHALLENGES REMAIN

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ACKNOWLEDGMENTS

I would like to thank the field research team for their extraordinary efforts and dedication in conducting this survey under challenging circumstances—moving rapidly forward in a door-to-door survey in rural hard-to-count tracts within very tight deadlines. Their thoughtful observations at a post-survey debriefing session made an important contribution toward contextualizing the quantitative analysis.

My colleague, Anna Garcia, with whom I have worked in farmworker research for more than two decades provided her usual meticulous attention to detail in training interviewers, supervising their work in the field, conducting followup interviews, and throughout the course of data entry and cleaning. It was a great pleasure to work together with CRLA community workers with whom we had first worked more than 10 years ago to track progress in decennial census procedures and learn how communities had changed over the past decade.

Rachel Hoerger's contributions in coordinating field research, conducting a very large number of interviews herself in diverse communities, as well as her review and comments to an early draft of the report were outstanding and I am very grateful to her for her diligence, energy, and valuable insights.

As has been the case throughout our many years of partnership and collaboration in examining issues of undercount, Ilene Jacobs' insights contributed greatly to the research design for the study, facilitating coordination with the Census Bureau and her review and input of the draft report made it much crisper and accessible.

Finally, I would like to thank my JBS colleagues, Jo Ann Intili and Susan Gabbard, for their advice on a range of technical issues related to survey research and data analysis. Shannon Williams' also provided tremendously useful report in key aspects of survey implementation.

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Introduction

JBS International partnered with CRLA, Inc. to design and carry out the applied research component of its 2010 Census Improvement project funded by The California Endowment as part of a multi-stakeholder initiative to address the long-standing problem of differential undercount of racial minorities and other socioeconomically disadvantaged populations in the decennial census. Our organizations have worked collaboratively for more than two decades to analyze patterns of census undercount of migrant and seasonal farmworkers (MSFW's). We have used insights from this research to help guide efforts by the Census Bureau and stakeholders to improve enumeration and to advocate that these well-documented and long-standing disparities be taken into account in social policy and program planning.

The current research is a continuation of our previous efforts. Our hope is that the findings and recommendations presented here will contribute to practical efforts in the coming decade to improve Census Bureau survey research strategy and implementation and, at the same time, improved understanding of the limitations of the decennial census and American Community Survey (ACS) in enumerating and profiling an increasingly diverse population.

Our research on Census 2010 was designed to provide insights about the dynamics of census undercount in a new era—since the 2010 decennial census incorporates several major changes from previous censuses and California's population has continued to become more diverse. The research was also designed to give special attention to the distinctive problems of census enumeration in rural US communities with high concentrations of farmworkers and immigrants—because these groups have historically been seriously undercounted. Immigration has, during the past decade, changed the demographic and sociocultural profile of rural areas of the United States more rapidly than that of urban areas and will continue to do so in the future. The challenges faced by the 2010 decennial census in enumerating a multi-ethnic, multi-lingual rural population will continue to affect planning and policy development —especially since the American Community Survey, the source of detailed demographic

and socioeconomic data on population and housing, relies on the same core survey methodologies as the decennial census.[1]

The current research examines the outcomes of efforts by CRLA, Inc. and other community organizations funded by The California Endowment and, in some cases, the Census Bureau itself, to improve enumeration in "hard to count" areas. In doing so, this research makes a contribution to ongoing efforts to enhance these partnerships.

This report details our findings regarding the extent of undercount in 2010 in a random sample of 33 hard-to-count census tracts in California's San Joaquin Valley, Central Coast, and South Coast areas where there is extensive labor-intensive agricultural production. About one out of five of the nation's migrant and seasonal farmworkers live in these counties.[2] The hard-to-count tracts in the study are all located in counties where CRLA, Inc. made a commitment to work with the Census Bureau and other stakeholders to improve enumeration in 2010, so the research yields useful, formative evaluation research findings to inform future collaboration and assessment of the impact of the special foundation-funded initiative.

The Applied Research and Policy Context of Census Improvement Efforts

There are limitations to the accuracy of all survey research, including the U.S. decennial census, the largest and most ambitious survey undertaking in the world. Differential undercount is a major problem for effective social policy development and program planning because, typically, "hard-to-count" populations, neighborhoods, and communities are those who might benefit from interventions based on sound data. Consequently, the limitations of census data inevitably contribute to broadening pre-existing social and economic fault lines in contemporary society—because state and local organizations and institutions do not receive adequate support from programs where funding is allocated on the basis of census data.

[1] The size of the immigrant population in rural states grew faster than in urban states over the decade from 1990-2000 and has continued to grow over the past decade. An excellent overview is available in Elzbieta Gozdziak and Susan Martin (Eds.), **Beyond The Gateway: Immigrants in A Changing America**, Lexington Books, 1995. The data on growth rate is summarized in Table 2.1 of the chapter by Micah N. Bump, B. Lindsay Lowell, and Silje Petterson, "The Growth and Population Characteristics of Immigrants and Minorities in America's New Settlement States". An update showing growth rate by state for 2000-2008 (based on analysis of ACS data) is presented in Table 12 of The Pew Hispanic Center's report, "Statistical Portrait of the Foreign-Born Population in the United States", January 21, 2010.

[2] Aguirre Division/JBS International, "Identifying High Concentrations of Migrant and Seasonal Farmworkers", report to Population Division, Bureau of the Census, U.S. Department of Commerce, 2007.

The findings reported in the current report, "2010 Census Enumeration of Immigrant Communities in Rural California", include an estimate of the extent of decennial census undercount in rural areas of California counties with high concentrations of Mexican immigrants and farmworkers. The report also examines factors related to the two major modes of census system failure—total household omission (where an entire household or multiple households in a low-visibility dwelling is or are not enumerated) and partial household omission (where some of the people living in a household are not included in the census count). The analysis provides an indication of the likely adverse impact of differential undercount on the communities and counties in this large sub-region of rural California. Our quantitative findings regarding undercount in the 10 study counties (Merced, Madera, Fresno, Tulare, Kings, and Kern in the San Joaquin Valley; Monterey, Santa Barbara, Ventura, and San Diego in the Central and South Coast) cannot be directly extrapolated to other regions of the country because they reflect the specific survey implementation strategies and community partnerships adopted by the Los Angeles Regional Office of the Census Bureau. Nonetheless, our more general conclusions about the dynamics of census promotion efforts and structural causes of undercount are relevant to census enumeration in most low-income, Latino immigrant communities in the rural U.S.

Research Priorities and Strategy

Understanding the extent of immigrant undercount, by focusing on structural and systemic factors associated with differential undercount and not simply on undercount in relation to race and ethnicity, is particularly important in California and in our research program. A structural analysis provides a better understanding of decennial census and other mainstream survey dynamics in a nation that is becoming increasingly diverse in race, ethnicity, language, culture, household living arrangements, and interactions with government institutions. This sort of analysis provides insights into causes of census undercount which, in turn, have practical implications for improving survey methodology.

Our previous analyses of differential undercount of migrant and seasonal farmworkers discovered extremely high levels of total and partial household omission in both the 1990 and in the 2000 Decennial Censuses. We estimated in 1990 that 48-52% of the nation's migrant and seasonal farmworkers were missed in the decennial census as a result of total or partial household omission.[3] We then examined

[3] Susan Gabbard, Edward Kissam, and Philip L. Martin, "The Impact of Migrant Travel Patterns on the Undercount of Hispanic Farmworkers", in **Proceedings of the 1993 Conference on Census Undercount of Minorities**, Bureau of the Census, 1994. This was a meta-analysis using several independent data sources (from the National Agricultural Worker Survey, California Unemployment Insurance records, California Employment Development Department

census undercount in 2000 in five rural California communities with high concentrations of farmworkers and indigenous-origin Mexican immigrants and found undercount rates ranging from 11% to 38%.[4]

Our prior research on differential undercount of immigrants and farmworkers has yielded not only sound estimates of the impact of differential undercount, but also insight into specific aspects of census operations which gave rise to undercount; it has been possible to use these analyses as the basis for a practical effort to improve enumeration of migrant and seasonal farmworkers over the past two decades.[5] We continued our longstanding program of applied research in this area in 2010 in order to pursue ongoing objectives of assessing the extent to which differential undercount results in inequitable funding of social, health, and education programs in rural California communities that have high concentrations of immigrants and farmworkers, and of making a practical contribution to improving census methodology and implementation, including partnerships with local stakeholders, service organizations, and advocacy groups.

This Report has particular practical relevance in light of major changes in decennial census methodology for 2010, including the short-form only census and targeted mailing of bilingual questionnaires to areas with high concentrations of Spanish-speaking households.

The field research which forms the basis of the current report took place within the jurisdiction of the Los Angeles Regional Office of the Census Bureau, making it possible to assess operational changes resulting from collaboration between CRLA and other local community organizations and the Regional Office: utilization of input from community groups regarding placement of Questionnaire Assistance

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monthly estimates of agricultural employment, Commission on Agricultural Workers, and Public Use Microdata Sets from the 1990 decennial) and a model of census undercount (Fein 1989; Fein 1990) developed by Census Bureau researchers.

[4] Ed Kissam and Ilene Jacobs, "Practical Research Strategies for Mexican Indigenous Communities in California Seeking to Assert Their Own Identity", in Jonathan Fox and Gaspar Rivera-Salgado (Eds.), **Indigenous Migrants in the United States**, University of California, San Diego, 2004. For this study, we utilized an ethnosurvey methodology developed by Leslie Brownrigg at the Census Bureau and used in 35 community case studies of differential undercount in the 1990 census.

[5] See, for example, GAO, "Decennial Census: Lessons Learned for Locating and Counting Migrant and Seasonal Farmworkers", GAO-03-605, 2003, Aguirre International, "Identifying High Concentrations of Migrant and Seasonal Farmworkers Contract Number: Report to Population Division, Census Bureau under Contract 05-41823-0-0, 2007, and "Testimony Ilene J. Jacobs, "The 2010 Census Master Address File: Issues and Concerns", Information Policy, Census, and National Archives Subcommittee of the Oversight and Government Reform Committee", October 21,2009.

Centers (QACs) and Be Counted Centers (BCs), provisions for delivering questionnaires to households in areas with limited postal delivery (PO Box communities), and an innovative effort to improve the Master Address File by integrating list-enumerate procedures into non-response follow-up (NRFU). The current study did not, however, examine two other important strands of collaboration between CRLA and the Census Bureau, i.e., identification of outdoor areas with concentrations of migrant and seasonal farmworkers (to enhance the Targeted Non-Sheltered Outdoor Location [TNSOL] operations) and identification and enumeration of MSFWs living in farm labor camps.[6]

The research methodology utilized in "2010 Census Enumeration of Immigrant Communities in Rural California" extends our earlier findings regarding very deep neighborhood pockets of differential undercount of farmworkers to an assessment of differential undercount at the community and county level. This is important because census-based allocation of social program funding is allocated at the county level.[7] Aggregate undercount in a local, regional, or state area, where various deep pockets of undercount that might exist are smoothed out by neighborhoods where undercount problems are not so severe, can be problematic in determining actual need. The findings reported here, based on a multi-stage random sample of 423 households within 33 HTC tracts in the 10 study counties, provide quite reliable indicators for assessing the impact of undercount on funding for typical rural municipalities and rural school districts and relevant, albeit imperfect, indicators of county-level impact.[8]

[6] CRLA, Inc. has conducted an informal survey in areas where it has offices to assess how successful these operations were. Since CRLA, Inc. provided local Census Bureau offices with information on non-sheltered locations and farm labor camps (based on the local knowledge of its community workers), this survey will provide useful insights about the challenges encountered in effectively utilizing local knowledge to fine-tune census operations in specific difficult situations.

[7] Education funding, particularly for programs of special importance to MSFW's, is now allocated at the state level and then subsequently allocated at the school district level based on population characteristics for those jurisdictions. Generally, the rural census tracts are more or less comparable to school districts in terms of population and size.

[8] The study was limited to HTC tracts as identified by the Census Bureau in Antonio Bruce and Gregory Robinson, "Tract Level Planning Database with Census 2000 Data," using a cut- point of an HTC score of 70 or higher—the level used by local census offices as a basis for giving special attention to such areas. Focusing the evaluation research on these tracts was useful in that the Census Bureau's local office efforts were targeted to these hard-to-count areas, so the evaluation relates to "best case" scenarios. The rural undercount estimates reported here do not represent county-level undercount for all of the counties in the study area because we excluded from the sampling frame urban tracts in Bakersfield, Fresno, Merced, and San Diego due to study resource limitations. The survey area does however represent rural HTC areas of all 10 counties in the study.

About 20% of the nation's farmworkers live in the 10 study counties, therefore, the findings have significant implications for overall MSFW program funding nationally.[9] The rural immigrant population differs from area to area of the country; however, the Mexican immigrant population living in the rural study counties, most of whom are farmworkers, is similar in many key characteristics to other rural areas of the country.[10] Therefore, lessons learned about what worked in the 2010 decennial census in the CRLA service area are relevant to other rural areas of the country with high concentrations of Mexican and/or Central American immigrants.[11]

Why Differential Census Undercount Matters

Census data drives funding allocation for a wide range of federal programs that support crucial health, education, and social program services for a range of vulnerable population sub-groups in California including immigrants, limited-English populations, adults with low levels of education attainment, female-headed households, farmworkers and ethnic minorities in general. Federally funded services where allocation is based on tabulations of census data include: MedicAid, compensatory education programs, low-income housing, and maternal-child health services.

What are the stakes? Our 1999 review of programs affected by census undercount identified 12 major programs with an aggregate national funding level of slightly over $129 billion which would be

[9] However, we believe that our estimates of overall MSFW household undercount are conservative—because farmworkers in the study area less often live in isolated, low-visibility dwellings than in major agricultural production areas of the Eastern U.S. such as Florida and North Carolina (because California communities have less rural dispersed housing than in other areas of the rural U.S. due to the high cost of agricultural land) and because the study design did not permit adequate representation of concentrations of farmworkers living in extremely marginal housing conditions such as outdoor encampments in San Diego County.

[10] The demographic and socioeconomic profiles of California farmworkers based on data from the National Agricultural Worker Survey (NAWS) are quite similar to those of farmworkers in other areas in terms of educational attainment, length of time in the U.S., earnings, etc.—although there are also important differences in housing conditions, specific indigenous-origin communities in different labor markets, length of settlement, etc.

[11] Reports by the Institute for the Study of International Migration at Georgetown University (Gozdziak et al 2006) and the Pew Research Center (2009) show the rate of immigrant population growth in rural states over the past decade. Immigrant growth is higher in rural areas than in urban areas more mature migration networks. California's total immigrant population is growing slower than in some other rural states—but growth in rural counties is probably as high as in other rural areas of the country. As in California, Mexicans comprise a higher proportion of the immigrant population in rural than in urban areas.

affected.[12] Another $1 billion in funding targeted specifically to migrant and seasonal farmworker programs is allocated based on formulae that include components (variables) derived from census data. A PriceWaterhouse Coopers report prepared for the U.S. Census Monitoring Board estimated that $166.6 billion in funding for "major" programs was affected by decennial census data.[13] The 2001 report to the Monitoring Board estimates that over the period from 2002 through 2012, the 2000 decennial census undercount would result in losses of federal funding to Fresno County of $40 million, to Kern County of $21.8 million, to San Diego County of $71.6 million, and to Ventura County of $7.8 million.[14]

The impacts of differential census undercount become much more complex to estimate for the 2012-2022 decade due to the fact that the relevant data for formula funding are drawn both from the 2010 decennial census and the American Community Survey (ACS), which is now the source of detailed demographic and socioeconomic information on the U.S. population. We have no doubt that the patterns of undercount observed in the 2010 decennial census will persist in the ACS—because the ACS sampling strategy rests on 2010 decennial data and, more importantly, because the types of operational difficulties encountered in the decennial census will be replicated, and probably amplified, in the ACS since the survey effort is accompanied with fewer promotional activities and implemented with a lower level of staffing and, of course, because the respondent burden is much higher than for the short-form decennial census. The crucial policy concern about equitable census enumeration as a cornerstone for adequate social, public health, and program support to the economically-disadvantaged communities and minority populations most needing such support, therefore, will persist in coming years. Although we can anticipate continued positive developments in survey methodology and information technology for survey management, we can also anticipate continued challenges in implementation of the ACS as ethnic and linguistic diversity in rural areas of the U.S. becomes more pronounced, and as the economic stresses of the 2008-2009 persist and housing conditions deteriorate.

[12] These major federal programs in 1999 included: CDBG, WIA Title II, Maternal and Child Health Services Block Grant, Medicaid, WIC, Title I, Vocational Education, Home Investment Partnerships Program, (Kissam and Jacobs 1999). There is also the possibility of mis-allocation of state funding to local municipalities or jurisdictions, so the overall local community impacts of flawed census data are significantly greater than the impacts on federal funding alone.

[13] PriceWaterhouseCoopers, "Effect of Census 2000 Undercount on Federal Funding to States and Selected Counties, 2002-2012", report to U.S. Census Monitoring Board, August 7, 2001.

[14] Net effect, consisting of "between-state" and "within state" effects as reported in Appendix E-1, Monitoring Board report.

The current research on the 2010 decennial census in hard-to-count areas of rural California with high proportions of immigrants and farmworkers is both a formative and a summative evaluation of how things went in 2010. There is very heartening evidence of significant progress in making census data a source of information which provides a faithful mirror of the composition of American communities. However, there is also evidence that much more needs to be done and can feasibly be done to improve census operations.

Our hope is that the evidence we present regarding the likely impact of continuing problems of differential undercount in Census 2010 will be seen as integrally linked to the evidence as to what has been done to date and what can be done in the future to improve census operations. The Census Bureau's promotion theme for Census 2010, "It's in Your Hands!", meant to encourage household participation in the decennial census, applies equally well to the relationship between the Census Bureau and its community partners since the "raw material" of information provided by households to the Census Bureau is only one component in the complex process of generating the data that is disseminated and then used to guide social and educational policy development and allocation of funding support. The information the census provides to policymakers, program planners, and community residents themselves is constructed -- not simply reported, strictly speaking -- implying a commitment on the part of the Census Bureau to work to make its partnerships more flexible and productive.

Details on Study Area: 2010 Census Enumeration of Immigrant Communities in Rural California

We examined key aspects of decennial census implementation in a random sample of households in 33 hard-to-count (HTC) tracts in rural parts of the San Joaquin Valley (Merced, Madera, Fresno, Tulare, Kings, and Kern counties), in the Central Coast region (Monterey, Santa Barbara, and Ventura counties), and in the agricultural areas of northern San Diego county.[15] This region was chosen for the study because CRLA, Inc. was involved in efforts to enhance census enumeration of farmworkers and Mexican immigrants in these areas and because each of the counties is a major area of labor-intensive agricultural production. This provided us with a means to consider both the outcome of 2010 efforts to diminish census undercount and the impact of CRLA's efforts toward this end.

[15] For a full discussion of sampling strategy and overall research design see Appendix A. The sample is a multi-stage one of randomly-selected households in randomly selected tracts in rural areas of 10 of the 13 counties served by CRLA within the Census Bureau's Los Angeles region. The sampling frame did not include non-sheltered locations where farmworkers and other homeless persons live or labor camps on state or federal lists of licensed labor camps—since the census is implemented differently in these contexts.

The study region is characterized by high levels of immigration of Mexican migrants from rural Mexico who come to work in California agriculture and it is also diverse in terms of crop production and housing conditions. Thus it provided an opportunity to consider whether these factors, as well as differences in operations of local census offices, affected undercount in immigrant-dense areas of rural California. As in many areas of the rural United States with labor-intensive agricultural production, there has been, since passage of IRCA in 1986, an ongoing process of immigrant settlement, coupled with a continuing influx of newly-arrived Mexican migrants arriving to work in agriculture. The entire region has experienced economic difficulties in recent years. In general, communities in the region are becoming more racially/ethnically mixed as immigrant households become more economically stable and move into neighborhoods which previously had more uniformly native-born populations, and as lower-income native-born families diffuse into neighborhoods which were more uniformly immigrant ones.

Demographics, Language, Educational Attainment, and Occupation of the Study Population

The majority of households in the study sample are Latino (75%) but there are also significant numbers of White non-Latino households (18%) and small numbers of mixed-race (3%), Asian (2%), African-American (1%), and American Indian households (<1%). Two-thirds (67%) of the survey respondents are foreign-born, with most having been born in Mexico.

Interviews were conducted in the preferred language of survey respondents—resulting in two-thirds of all the interviews being conducted in Spanish. However, it deserves note that the preferred language of about one out of eight of the Latino households was English.[16] About one-quarter of the households in the survey (24%) are ones where no adult speaks English. But in about half of these households (12% of all non-English households) one or more children do speak English. An indigenous Mexican language (Mixtec, Purepecha, Otomi, or Chatino) is spoken in about 2% of the households. Other household languages of surveyed households include: Arabic, Farsi, Punjabi, Hindi, Bengali, Tagalog, Italian, Khmer, Vietnamese, Russian, and Norwegian. In slightly more than one-third of the households in the study sample (37%), the head of household had no more than elementary-level schooling.[17]

[16] One interview was conducted in Mixtec. The validity of efforts to differentiate sub-groups within the Latino population based on a constructed index of "assimilation" is complex and controversial—but the English-speaking Latino households are almost all ones which would consider themselves Mexican-American or Chicano, as distinct from "Mexicano/a."

[17] "Head of household" is constructed as being either P1, the survey respondent, or P2, typically their spouse. This identification of "head of household" slightly over-estimates the educational level of heads of household since in a

About two-fifths (41%) of the households in the sample are farmworker ones—although the proportion varies from county to county with higher concentrations in Fresno, Tulare, Kern, and Monterey counties.[18] The proportion of farmworker households in the sample with recently-immigrated farmworkers (i.e., those with 5 or less years in the U.S.) is lower than in the national farm labor force (10% in the sample vs. 20% in the National Agricultural Worker Survey (NAWS) California sample of crop workers performing seasonal agricultural services).[19] Most of the non-farmworker households in these rural HTC tracts are lower- to middle- income blue-collar households, although the Santa Barbara HTC tracts include a fair number of students (29% of all households surveyed).[20] However we did not systematically collect and code information on specific non-agricultural occupation of the survey respondents.

The combination of Mexican immigrant households' limited command of English and low educational attainment poses challenges to census enumeration in this region, given the fact that the decennial census is primarily a mail survey. However, as noted in early cross-cultural research by literacy expert, Stephen Reder, the Mexican immigrant households have experience with and resort to "collaborative

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few cases, the survey respondent (P1) was a teenager or young adult living in their parents' household. Typically these household members have higher educational attainment than their parents

[18] Computed based on analysis of the occupations of all persons in the household (for households of up to 11 persons) as a means of assuring comparability to standard data on MSFW's. It is possible to distinguish households in which P1 or P2, generally the head of household and their spouse, is a farmworker from those in which other, more peripheral household members are; in about three-quarters of the MSFW households, the head of household or their spouse are themselves a farmworker. The highest concentration of farmworker households is in the Fresno County HTC tracts (64% of all households), followed by Monterey (55%), Tulare (54%), Kings (50%), and Kern (40%).

[19] "California Findings from the National Agricultural Workers Survey: A Demographic and Employment Profile of Perishable Crop Farm Workers (Report 3)", U.S. Department of Labor, 1995. The analyses are not perfectly comparable since the current study refers to the length of time P1 or P2 who works in agriculture has been in the U.S., not to length of time of all farmworkers in the household, while the NAWS tabulations refer to all SAS agricultural workers. The definition in the current study also classifies as farmworkers some categories of agricultural workers (most importantly those who work in packinghouses) which differ from those adopted by DOL for the NAWS. It is likely also that the proportion of recently-arrived farmworkers in California farm labor markets is lower than it was in the early 1990's.

[20] Occupation/workforce status was inquired about and coded in very broad categories—agricultural employment, non-agricultural employment, retired/disabled, student, unemployed, and homemaker.

literacy" strategies for dealing with printed information when necessary—an important consideration, as it turns out, in understanding patterns of census response in the study area.[21]

Housing Arrangements (Type of Housing Unit) and Household Configuration (Social Units/Living Arrangements)

As we have pointed out in previous reports, housing arrangements in rural California contribute to the difficulty of enumeration because a significant proportion of housing units do not have mail delivery—either because it is not available locally (i.e. PO box communities and neighborhoods) or because the housing unit is a low-visibility one, typically one which is not permitted and sometimes actively concealed because of the property owner's concern about code enforcement or other, unspecified, worries.

Moreover, census definitions of "housing unit" and "household" do not always conform to actual housing arrangements since, in the case of housing units—houses, apartment, trailers—occupied by multiple family/social units, there is ambiguity about the boundaries of "household". The strength of social bonds between persons living in a single dwelling or at distinct non-mail housing units in a cluster of non-mail housing units around a primary housing unit/household at a single property varies greatly. In some cases, rooms or portions of housing units (even those without a separate entrance) are considered by the primary householder to be a separate household even if, as visualized by the Census Bureau, they are not.[22]

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[21] Stephen Reder and Karen Green, "Giving Literacy Away: An Alternative Strategy for Increasing Adult Literacy Development", paper prepared for the National Adult Literacy Project, Northwest Regional Educational Laboratory, 1985. See also Stephen Reder, "Comparative Aspects of Functional Literacy Development: Three Ethnic American Communities" in D. Wagner (Ed.) **The Future of Literacy in a Changing World**, Pergamon Press, 1987.

[22] Within the geography of the social universe of Mexican immigrants, social and migration networks can be visualized as concentric fields of social bonding—with immediate family members, extended family members, friends and co-workers, people from one's own village, from a nearby village or hamlet in a *municipio* of origin, or from one's state. There are progressively weaker ties with those further from the center of the respondent's social network; however there is also much variation among individuals in terms of "solidarity" (i.e. bridging social capital/ties) with co-ethnics. This carries over to survey respondents' visualization of "household". The most thorough analyses of Mexican kinship and fictive kinship systems (*compadrazgo*) can be found in the work of Larissa Lomnitz in the 1960's (**Como Sobreviven Los Marginados**, Siglo XXI, 1974), so more ethnographic research will be needed on how these core systems of social organization have evolved in the U.S. although there is some relevant research by Lynn Stephen, Cecilia Menjivar (on Salvadorans in an urban setting), Jacqueline Hagan (on Guatemalans in Houston), and in our New Pluralism research conducted in Arvin, CA, in Kern County, and Woodburn, Oregon

It is important to note that, contrary to conventional wisdom, most farmworkers do not live in on-farm housing, i.e. "farm labor camps"[23] (NAWS 2005). The survey area is typical of US labor-intensive agricultural areas in this respect, with most farmworkers living in single-family dwellings (both standard single-family homes and "unusual" substandard units) or apartment units.

Two-thirds (67%) of the surveyed households live in single-family dwellings; another one-quarter (25%) live in apartments and slightly more than 3% in trailers or mobile homes. The remaining 5% of the surveyed households live in a low-visibility or otherwise "unusual" housing unit, e.g., a "back house", garage, camper shell, or shed. Overall, 7.2% of the surveyed residences lacked standard mail delivery. Somewhat less than half of these units-- 3.1% of all the housing-- were standard housing units without U.S. postal service delivery to their door, while slightly more than half of the houses without mail delivery-- 3.8 % of all the housing units-- were more problematic "unusual" low-visibility ones such as "back houses", garages, camper shells, or apartments over garages where respondents stated there was no mail delivery or that they had not received a mailed census form.[24]

Almost two-thirds (64%) of the households in the study sample are nuclear family households (including both two-parent and single parent families with children), while one-quarter (25%) are extended family households where, for example, a couple and their children share a house with a sister and brother-in-law and their children. The remaining 12% of the households consist of housing configurations and social relationships which pose particular challenges for census enumeration. Slightly more than 8% of the addresses surveyed were ones where multiple separate families were living in a single housing unit ("doubled-up" families), and another 1% were unaccompanied migrant co-workers sharing housing (a distinctive sort of multi-family household). Slightly more than 1% of the addresses surveyed were places where students lived.[25]

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[23] The 2005 tabulation of California NAWS data reports that 18% of SAS workers live in employer-provided housing. The actual proportion living on farms is lower than this since much employer-provided housing is in-town housing provided by labor contractors, not on-farm housing.

[24] The remainder where classification was unclear included households which had PO boxes because they did not trust mail delivery although they were in a "city-style" mail delivery area, and households where a survey respondent said that they did not receive a form but were, nonetheless, enumerated somehow.

[25] This tabulation is for housing units where household composition was codable based on the housing composition as reported in the interview. Housing units where household was not codable included 4 cases where the survey respondent refused to provide detailed information on persons living in the household. The configurations included some unusual multi-family households such as "employer and employee," landlord and

Census Coverage in the Study Area

Successful enumeration depends on both the Census Bureau data collection system and the respondent. Each household must have an opportunity to provide the census information requested, via mail or interaction with an enumerator, and be able and willing to provide it in conformance with Census Bureau definitional guidelines (the household residence rules). Tracts that are "hard to count" are those with concentrations of households that are not part of "the mainstream," (although the ways in which they are atypical vary greatly). The outcome of any survey, including the Decennial Census, rests on the way in which operational factors in survey methodology function in each of these distinct sociocultural contexts. In the case of the decennial census, these factors include adequacy of the Master Address File (MAF) used to deliver questionnaires to households, questionnaire design issues (language, phrasing, sequence of questions, form completion instructions), respondent ability to respond (reading, recall, writing, oral communication with enumerators), and on respondent willingness to respond. As has been documented in an extensive ethnographic research literature on census methodology over the past four decades, the specific aspects of questionnaire design, sampling, or other facets of census methodology which work adequately or poorly in any specific context varies greatly.[26]

Delivery of Census Forms via US Mail and Update/Leave (U/L)

87% of the surveyed households respondents said they had received a mailed census form. Another 3% of the respondents who clearly did have mail delivery said that "some letters" had "come from the government" but they were not clear if it was the census form because they threw it away.[27] An additional 4% of the survey respondents who did not have standard mail delivery said that they had not received a census form either in the mail or dropped-off at their house, but that Census Bureau enumerators had come to their house to enumerate them (some of these were households with PO boxes but some had no mail delivery). Finally, in 1% of the households the respondent said that a Census

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tenant, and couples or extended families sharing housing with lone male migrants (*arrimados*), in addition to the multi-family households where even friends and/or co-workers typically do not have detailed information on each other.

[26] Some of the earliest research, in the mid-1970's, demonstrated, for example, that women receiving welfare were likely to not report men living with them on the census form, but many other aspects of local living arrangements can be problematic for questionnaire design (e.g. the interaction of standardized residence rules with concepts of where people are "staying" in crack house sub-culture as documented in Ansley Hamid's work, or with Haitian conceptualizations of household and extended family in Carole and Alex Stepicks's work) or sampling.

[27] We believe it is likely that this response indicates that a form was indeed received by the household.

Bureau representative had left them a census form at their house, probably via a procedure referred to as "Update/Leave" designed for rural areas without mail delivery.[28] Survey respondents' reports on receipt of mailed or dropped-off census forms in aggregate provide an indicator of the quality of the Master Address File. The survey results suggest that the Census Bureau's performance in delivering census forms to families living in the HTC tracts surveyed was quite good (with about 95% of all households having been identified and contacted via mail, dropped-off form, or a visit by an enumerator).

About 5% of the households in the study area appear not to have received a census form or been contacted by an enumerator. Most of these households (3% of the total) are ones where the survey respondent said there is no mail delivery service and that they had not received a dropped-off form or had an enumerator visit; the remaining 2% of the households do have mail delivery but the respondent said they had not received a form or been visited by an enumerator.

Proportions of households receiving mailed forms varied slightly from county to county; the only significant difference between counties was that fewer Tulare County households (only 69%) reported having received a mailed form than other counties. Latino and White households were equally likely to have received a mailed census form.[29]

Mail Participation Rate and Factors That Affect It

The Census Bureau has published information on varying mail participation rates broken out by census tract, place, county, state, and nationally. The published mail participation rates for the census tracts in the study area range from 58% to 78% with an average participation rate of 68%. The mail participation rate reported by the respondents to our survey, i.e., the proportion of those who had received a form

[28] This appears to have been the result of efforts by the Census Bureau to address the problem of delivering questionnaires in PO Box communities via "update-leave" procedures. The Los Angeles Regional office used update/leave procedures to deliver census forms to non-mail households in 7 of the 33 tracts in our survey (J.T. Christy e-mail 8-26). Our analysis suggests that this procedure increased overall inclusion of households in the MAF by 1-2% in the survey area.

[29] Tabulation of Q3GOTMAILFORM X HHETHNICITY. Slightly more of the non-white, non-Hispanic households received mailed forms, but these households are so few in total that the slight differences are not statistically significant.

who had returned it was 76%, higher than that reported by the Census Bureau.[30] Reviewing a range of factors that might affect mail participation rate yields two important findings.

Targeted Mailing of Bilingual Forms

The first finding is that the Census Bureau's program of targeted mailing of bilingual census forms in Spanish and English was an extremely important contributing factor to Census 2010 participation. At least three-quarters of the Latino households (77%) that received a mailed census form received a bilingual form in Spanish and English.[31] The targeted mailing also appears to have been quite successful in reaching the limited-English households which most needed a form in Spanish. Three-quarters (75%) of the non-English speaking households, i.e. those where the survey respondent reported that no one spoke English or where only a child spoke English, received a bilingual form.[32] This, presumably, made a significant contribution to improving mail return rates since the mail return rates of the Latino households were the essentially the same as for White households (77% for Latinos, 76% for Whites), and only slightly lower for households with no one who spoke English fluently (75%)

Since difficulties encountered by the Census Bureau in implementing non-response follow-up (NRFU) play a significant role in the eventual census undercount, the evidence suggests that the targeted mailing program made a significant contribution to successful overall enumeration in these hard-to-count Latino majority tracts by increasing the mail participation rate and reducing reliance on NRFU procedures. Implementation of the targeted mailing program (envisioned but not operational in Census

[30] Take 10 Website. It deserves note that the tract-level tabulations published on the site by the Census Bureau were as of April 27, 2010, before our survey took place. It is possible that the discrepancy in mail participation rates as indicated by our survey and by the Census Bureau tabulations may disappear when late returns are tabulated. The Census Bureau subsequently has reported that the final national mail participation rate was 74%, two percentage points higher than the April 27 report. A few (1.7%) of our survey respondents who said they had filled out the census form and mailed it back were also visited by an enumerator, possibly because they had not filled it out by the mail return deadline or possibly because, in fact, they hadn't actually filled the form out and mailed it back. It also is possible that some survey respondents told interviewers they had returned the census form, the socially desirable response, although in fact they had not done so.

[31] A few respondents (3%) could not remember or had not filled out the form themselves.

[32] The households where no one spoke English at all were more likely to have received a mailed bilingual form (88% received one) than the households where the survey respondent clarified that no adult spoke English but some of the children in the household did (only 63% received a bilingual form).

2000) has been important in 2010, but at the same time, one-quarter of the non-English households did not receive a bilingual form, so further improvement is needed.[33]

A challenge for the targeted mailing program is that English-only households may receive bilingual forms and, due to confusion or annoyance, be less likely to return their forms. However, our interviewers heard only a few negative remarks about the bilingual forms from White non-Hispanic survey respondents, which seemed to reflect concern about cultural/ethnic shifts within these Latino-majority rural areas and/or "big government". There was only one interview in which an English-only respondent complained about census forms being mailed "in Mexican". Consequently we do not believe it likely there will be substantial problems from spillover where non-Spanish speaking households in close proximity to concentrations of Spanish-speaking households receive the bilingual form.

Literacy, Forms Completion, and Mail Return

We examined the various possible correlates of mail return in HTC tracts with a very high proportion of Mexican immigrants with very low levels of educational attainment, where the targeted mailing of Spanish-language forms was implemented. It appears that neither household language nor education was closely correlated with mail return rate.[34] That is a very positive finding for census omission. Spanish-dominant households, including farmworker households and others headed by Mexican immigrants with low levels of educational achievement, were as likely to return a census form, once they received it, as were households where heads of household speak only English.

The Census Bureau's successful effort to facilitate Spanish-dominant respondents' return of census forms is evident, but it is important to recognize that the observed lack of correlation between educational attainment (a proxy for literacy) and census participation is not necessarily straightforward because the educational levels of Mexican immigrants to the rural United States have been rising steadily over time. However, Respondents' motivation to fill out a census form is strongly related to

[33] The proportion of linguistically isolated Spanish-speaking households not receiving a bilingual census form, of course, depends on the cut-point of limited-English density chosen for targeting the mailings. Lower cut-points would improve ease of response but would cost more. It would be possible to examine the cost-benefit tradeoffs fairly easily. There is clearly a possibility of bias if the non-English speaking households which get an English-only form are those in areas with lower concentrations of non-English immigrants.

[34] We discuss later that this appears to be related in part to households' reliance on informal social networks for assistance in reading and filling out forms; this is a more important part of the success story than is direct involvement by formal census promotion networks or organizations.

immigrant settlement and social integration (using a head of household's length of time in the U.S. as a proxy), which is inversely correlated to educational attainment and therefore ability to fill out the form. Consequently, the combined outcome of interactions between forms completion ability and improved mail participation rate is weaker than might be initially believed because the older, settled, Mexican immigrants are more motivated but also have more difficulty with the forms (even in Spanish), whereas the younger, more recently arrived and better-educated Mexican immigrants, despite being more literate and more able to complete the form, are less motivated to do so.[35] The challenges faced by the Census Bureau (in the Decennial Census and in the American Community Survey) in surveying non-English speaking Mexican immigrant households, however, can be expected to increase during the coming decade as proportions of indigenous-origin Mexican and Guatemalan immigrants moving north to work in U.S. agriculture more often have very low levels of schooling and are limited in Spanish and English.

Differences in Census Form Returns—Recent vs. Long-Term, Settled Mexican Immigrants

There are disparities in mail participation rates because the more recent immigrant households are less likely to have returned a mailed census form than the longer-term settlers. We analyzed the relationship between the head of households' length of time in the U.S. and return of a census form which had been received in the mail and found that the census form return rate is 73% for households in which the survey respondent been in the U.S. 5 years or less but 88% for households where they had been in the U.S. for 6 or more years.[36]

[35] A substantial body of high-quality farmworker research, including the National Agricultural Worker Survey (NAWS) and a series of 1990 studies conducted for the Commission on Agricultural Workers shows Mexican farmworkers' educational attainment increasing dramatically over the past two decades. However, as migration from the indigenous southwestern states of Oaxaca, Guerrero, and Chiapas to rural areas of the U.S. continues to intensify, literacy will become a more pressing problem once again, since Mexico's remarkable overall progress in increasing its' citizens educational attainment over the past two decades has largely left indigenous communities untouched and educational attainment in these communities is much lower than elsewhere (World Bank, 2003).

[36] Our survey household grid listed the survey respondent as P1 much as the decennial census does itself. P1 was generally the "head of household" but not always (as our interview protocol allowed any adult in the household who said they knew about what the household had done vis-à-vis the census be interviewed). The issue of "head of household" and form completion is not straightforward in the Mexican immigrant households. in our survey, the respondent in a household headed by a married couple was often the wife, who, in fact, may had more to do with dealing with government forms and letters than her husband. We looked to see if the same relationship held with respect to P2's time in the U.S. and return of a mailed form and for P1 and it did—with 64% of the households where P2 had been in the U.S. 5 years or less and 86% of the households where P2 had been in the US 6 or more years returning the form. In reality, the issue of who deals with forms in low-literate limited-English households is

This finding has important implications for future census promotion efforts as well as for operations, since it suggests that an immigrant's legal status per se is not as important a factor in determining willingness to respond to the census questionnaire as the degree of community to which they are socially and civically integrated into community life. Discussions with field researchers regarding their qualitative observations about household composition, attitudes, and census participation, revealed a consensus that the relationship between length of time in the U.S. and census participation is significant but non-linear. The immigrant households' sense of community membership and, consequently, response to the census promotion message about benefits from participation, seem to be most closely related to having children in school.[37] This issue is discussed at greater length later in this report in connection with census outreach and media messages regarding the benefits of census participation.

Errors in Census Form Completion

Interviewers asked survey respondents if they thought anyone had been omitted from the census form which was returned for their household, either because whoever filled out the form had "forgotten" to include the person (or been uncertain about including them) or because there was not enough room on the census form to include everyone in the household.

"Forgotten Persons" in Sample Households

Someone in the household had been "forgotten" in a small, but significant, proportion of cases: in 3.9% of the households that returned their form by mail. The most common example was an additional peripheral social group member living in a doubled-up household omitted from the census form which was returned by mail, especially in large, overcrowded households. For example, a couple and their two children who were living with friends in a housing unit with nine people in a crowded household in the

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complex, since there are many variations in family approaches to "collaborative literacy". This issue deserves to be explored further in smaller ethnographic or ethnosurvey studies as part of efforts to enhance Census Bureau survey strategies.

[37] In earlier research conducted for the Census Bureau in the mid-1990's, the author and his colleagues explored, in focus groups, immigrant Hispanics' interpretation of a double-barreled question on the 1990 census long form, "When did you come to live in the United States?" Respondents interpreted "living in the U.S." as distinguished from "coming to" the U.S. as being when one found steady employment or brought one's family to join them (Kissam, Nakamoto, and Herrera 1995). In general, and specifically for Latino immigrants, civic engagement is known to be mediated by organizational membership (Putnam 2001; Verba et al. 1995; Bada et al 2010) and it is likely that willingness to participate in the census is mediated by organizational affiliation as are other modes of civic engagement such as voluntarism. However, we have not seen this issue explored in applied research on census methodology.

Vista area were omitted. Two cousins were "forgotten" in another large farmworker household with 13 persons from an extended family living in a single-family home.

A few of these are cases in which a survey respondent mentioned someone as having been "forgotten" who lived in a "back house", garage, or room with a separate entrance. Census Bureau household residency definitions indicate that these individuals should not have been included on the census form which was mailed back. However, in the cases where a census respondent in the main household with a mail address "forgot" to include the people living in a "back house", it is very unlikely that these "back house" residents would have been counted in any way other than by being listed on the main household form, since the housing units where they lived did not have their own mail delivery and are not likely to be in the MAF. We discuss this further in our assessment of census outcomes, but it appears possible that the additional persons living in a "back house" or other low-visibility housing unit who had been "forgotten" by the census respondent in the primary mail households were very occasionally enumerated in the course of NRFU.[38]

Persons in Large Households At Risk of Being Omitted Due to Lack of Space on the Census Form

It is not surprising, given the levels of poverty within the hard-to-count tracts, that 5.7% of the surveyed households that received a mailed census form were "very large" ones, i.e., households with more than the 8 persons for whom full information could be reported on the bilingual census form; in our survey we found households with as many as 15 persons. It is possible to report summary information for Persons 9-12, but the information on these individuals' exact relationship to Person 1, the respondent who filled out the census form, cannot be reported, nor can their race or Hispanic origin. Moreover, information on household size for households with 13 or more persons becomes available in census data only if the census respondent remembered to answer Census Question 1 re total number of people in the household. This represents a threat to the integrity of census data. In theory, the census questionnaire design and procedures make it possible for the large households (>8 persons) and very large households (>13 persons) to be accurately enumerated. However, these households are at risk of being only partially enumerated because there are many opportunities for one or a combination of

[38] Our analysis tabulates persons identified as having been "forgotten" by household grid line number with B-line numbers referencing an additional non-mail household associated with the primary mail household at a sampled address. The numbers of those persons captured inadvertently in the course of NRFU or CFU (when a large household was contacted or when there was NRFU as a result of a household delaying returning its form) is tiny so we cannot draw any conclusion except that this outcome was possible.

factors to result in under-enumeration. A low-literate respondent can, for example, inadvertently skip Q. 1 or have difficulty in mentally tabulating all the people who live in the household. Or a respondent may decide only to include only their own family, not another family in a "doubled-up" household. We discuss later our observations about the extent to which this was a problem; the key point here is the prevalence of crowded housing units and the research implications if the largest, most-crowded housing units are systematically underrepresented.

Problems with the Census Questions Regarding Race and Hispanic Origin

There is an extensive research literature regarding the problematic nature of the census questions on Hispanic origin and race. The current study underscores the serious nature of these problems and the extent to which the framing of these questions adds to the perceived burden of census response and, thereby, potentially decreases respondent willingness to complete and return a mailed census form.

Interviewers observed that respondents whom we asked about their reactions to the race question could not uniformly distinguish between the Hispanic origin and the "race" question.[39] One-third (34%) of the Latino respondents said the question was difficult to answer. A substantial proportion of the households of mixed ethnicity (27%) also said the question was difficult.[40] Only 7% of the White survey respondents considered the question difficult (and of course there are, consequently, statistically significant differences in different ethnic groups' ability to answer these questions "correctly").[41] Households where no one speaks English or where only a child speaks English (where most adults have only an elementary school education) found the question still more difficult, with 48% of non-English households and 39% of those where only a child speaks English saying that they found the question difficult.

Many respondents confounded race or Hispanic origin with national origin and national identity, e.g. responses such as "Well, here we're all Americans" or "Easy—because I know the country I'm from", "Since we were born here I marked White but it was harder to figure out for my parents". Another

[39] We asked Q32 "The census questionnaire asks people to mark their race or ethnicity. Was it hard for you in your household to answer these questions?)". Interviewers then probed to find out why the respondent felt the question was difficult or easy, providing the basis for our analysis of responses to the question.

[40] The number of households of mixed ethnicity is very small.

[41] The survey sample did not include enough Black (4) and Asian (9) households to make tabulation of these sub-groups' responses meaningful.

respondent (slightly mis-remembering the Hispanic origin/race question sequence) said, "Well it's confusing, first it asks if you're Mexican and then it asks what race you are; well Mexico isn't divided into two halves". Another respondent had a different problem stemming directly from conflicts in official and personal visualization of ethnic/racial identity, saying "Well I know my race is White because that's what it says on my birth certificate, that's how it is; it seems a problem even though I know I'm Chicana/Mexican-American". Other conceptual problems arose, "Well it was hard; I think we're Hispanic but we're not Latinos".

Mexican immigrants commonly found the race question "difficult", sometimes perplexing, sometimes annoying, e.g. responses such as "I was confused—there's no slot for the brown (Mexican) race", "White or Hispanic?", "I don't know what race I am and there's no box to put my color in", "On TV they explained it's based on color; I used to be pretty blonde but now I've gotten darker". One respondent told our interviewer, "We were really confused, we got together with the neighbors to try to figure out the right answer". Or, "I didn't know what to put down because I was confused so I put 'Mexico" in the place where they ask about color".

Responses also suggest that is some cases enumerators did not provide the respondent an opportunity to self-identify, they instead marked down the "right" answer (e.g., a respondent told us the enumerator marked a box on the form when they got to the race questions but didn't ask) or that the enumerator instructed the respondent, for example, "They marked "White" and told me that was the right answer".[42]

For the low-literate limited-English households in the study area, we believe it unlikely that "technical" questionnaire design fixes to the problematic race and Hispanic origin questions will make much of a difference, although some survey respondents did mention a "technical" issue--noting there were too many choices on the race question. This is because respondents' comments about their experience in responding to the questions about Hispanic origin and race indicate that the OMB-mandated definitional framework for conceptualizing one dimension of social identity as "Hispanic origin" distinct from partially overlapping concepts of race, national origin, and "ancestry"(i.e. ethnicity) clashes with

[42] This is consistent with observations in a report by the Department of Commerce Inspector General, "Early Observations Indicate That Some Nonresponse Follow-up Procedures Are Not Being Followed and Others Are Lacking" (OAE- 19893-01) on June 11, 2010. However, the OIG's report suggests that the problem of incorrect enumerator procedures in asking the race and Hispanic origin questions was lower in our study area than in the areas observed by the OIG.

prevailing patterns of ordinary language, i.e. the ethnic/racial terminology used in day to day discourse.[43]

It seems to us that the majority of the Latino, predominantly Mexican, respondents we surveyed see the Hispanic origin question (Q. 5) as one that seeks to elicit "race" or "ethnicity" in a somewhat awkward way while the Race question (Q. 6) is frustrating in lacking an obvious response category for their own perception of their "race"—typically framed in their own everyday discourse with co-ethnics or others as "Mexican" or "Salvadoran", i.e. a term referring to national origin. Our survey did not include enough indigenous Mexican and Guatemalan respondents to allow any survey-based conclusions although other research makes it clear they encounter dilemmas in trying to respond to questions seeking to elicit their "racial identity".[44] We believe that the Centro Binacional para el Desarrollo Indigena Oaxaqueno's campaign to "explain" that the correct answer to the race question would be "other" or "American Indian+write-in of indigenous community/affiliation" reached many indigenous migrants but the survey responses only include one case where an indigenous immigrant was clear about this, "I'm Purepecha so I wrote that in there".

Persons with Non-Mail Addresses At Risk of Being Omitted

There are two types of non-mail housing units in the hard-to-count census tracts in the study area, standard streetside houses which only receive mail in a PO box and low-visibility "back houses" which might possibly have a PO box. One of CRLA's priorities in its campaign to enhance census enumeration of farmworkers and immigrants in its service area was to coordinate with the Census Bureau in identifying PO Box communities, farmworker and other encampments (TNSOL's), and labor camps.

[43] Various survey research efforts engage in efforts to "teach" respondents about standardized terminology in the course of posing a question and eliciting a response. Such efforts include devices such as including paraphrases in apposition, explanatory clauses, etc. These efforts are particularly problematic for low-literate respondents since they actually reflect modes of discourse found only in written material. Also, Mexican respondents with little schooling have great difficulty with formatting which is referenced in such instructions (e.g. columns/rows) since the print material has little of the formatting typical of U.S.-style materials requiring what the National Adult Literacy Survey calls "document literacy" (Education Testing Service, 1993).

[44] We have attended a number of meetings, both within the context of census research, and in discussions of the topic and there are, among indigenous-origin migrants various differing interpretations and shadings of the meaning and purpose of questions about ethnicity and the "correct" ways to think about and talk about ethnicity. These actually represent an ongoing process of integration into US social and political life and changing home-country visualizations of race/ethnicity. It deserves note, for example that Mexico's leading statistical organizations, CONAPO and INEGI have different criteria for imputation of ethnicity in population data (e.g. individual language spoken vs. community-level language use and historical culture).

CRLA records document local planning meetings with Census Bureau Local Census Office staff working in Imperial, Kern, Riverside, Tulare, and other records document that CRLA identified PO Box areas in Monterey, San Benito, and Ventura counties but the operational outcomes are uncertain.[45] There were a number of challenges confronting the Census Bureau in responding operationally to community input from CRLA and other groups (e.g. in Ventura, Kern, and Riverside counties, getting census forms to trailer parks believed not to have mail delivery or to neighborhoods with concentrations of farmworkers where PO boxes are rented in small local stores and gas stations), as well as in conducting TNSOL enumeration procedures in outdoor locations and identifying farm labor camps where special enumeration procedures would be needed. It is not clear to what extent there was operational follow up and problem-solving by local census offices in some of these areas to ensure that census forms reached households, or, if there was indeed some sort of followup, exactly what arrangements, if any, were made to get forms to non-mail households or adapt TNSOL or group quarters procedures to unique local context in different areas.[46] CRLA's review of Census Bureau followup at outdoor locations and labor camps they had identified for the Bureau suggests that local census office followup varied, resulting in successful enumeration at some of the farmworker encampments and labor camps and not at others.[47]

Our sample of households in HTC tracts includes at least one small community, Lost Hills in Kern County, which does not have US postal service delivery to the door; in this community, it appears that the "update/leave" process successfully delivered census forms to most local residents' homes after arrangements were made to ensure that census forms were delivered there. However, we also know that similar arrangements were <u>not</u> made in some of the other PO Box communities in the San Joaquin Valley.

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[45] Rachel Hoerger e-mails to Ed Kissam 8/13/10 and and 10/27/10 and files with meeting agendas and summaries of PO box areas identified. CRLA had formal meetings with the following Local Census Offices: Fresno, North Fresno, Bakersfield, Visalia, Santa Maria, Ventura, Vista, Escondido, El Cajon and Palm Springs. Anecdotally, CRLA local office staff observed that the Palm Springs LCO did a very good job in enumerating mobile home parks in rural and other hard-to-count neighborhoods. CRLA's informal surveys in Riverside found that census workers covering 10 of 10 parks surveys, even some extremely rural parks. Other LCOs seemed to do decently also – the results of CRLA's informal surveys show 17 of 17 communities were enumerated by U/L or door-to-door enumeration

[46] In one area where update-leave (U/L) procedures were used census forms were left in plastic bags on the doors of houses that did not have mail delivery.

[47] Working notes by Rachel Hoerger, CRLA, Inc. as of October 19, 2010. CRLA, Inc. will prepare a report detailing its community workers' observations regarding Census Bureau followup at P.O. Box communities, outdoor encampments and farm labor camps.

Press coverage, for example, has included attention to a Postal Office Manager in Biola (San Joaquin County) who was proactive and took responsibility for personally delivering census forms to the door of each household. We became aware, for example, of a less fortuitous outcome in Laton, an unincorporated small community in Fresno County, where census forms arrived at the local office with street addresses for housing units where there was no mail delivery and were subsequently returned to the Census Bureau by the local postmaster.

It is possible that proactive local efforts such as those in Biola took place in some communities but, also, possible that they failed to take place in other communities, as happened in Laton. There are clear-cut organizational problems in the Census Bureau's ability to combine standardized operations for assuring survey procedures are followed meticulously, on the one hand, with systematic and reasonable local problem-solving, on the other.[48] We observed, for example, that Local Census Office (LCO) staff from the North Fresno office of the Census Bureau were absent from several CRLA-sponsored meetings held in Fresno and that Census Bureau staff who did attend the meetings could not guarantee that suggestions for resolving observed problems and insights would reach the appropriate staff; this was unfortunate since the central city Fresno staff who did attend the meetings were not in charge of operations in the rural areas while the North Fresno office staff were. An obvious conclusion is that Census Bureau partnership with community-based organizations (and with local municipal government) would be strengthened if local census office management were more diligent in improving internal communication within and between LCO's and more systematically tracking its own in-house action on partners' recommendations and providing feedback or updates on what action was taken in response to suggestions.

Effectiveness of Census Promotion Efforts—Media, Organizational Outreach, and Social Networking

The Census Bureau has worked vigorously since the 1990 Decennial Census to expand its partnerships with census stakeholders and public interest groups, local municipalities, community organizations, and

[48] At one meeting, for example, several participants, including our own field research team, (Anna Garcia, Jorge San Juan) who had done local reconnaissance in some outdoor encampments, explained to LCO staff why procedures for enumerating farmworkers camped out in orchards southeast of Fresno would not work if the enumerators were sent out with flashlights to begin enumeration at midnight wearing vests which looked like those used by ICE or police (using an operational model based on strategies for counting urban homeless). However, local Census Bureau staff explained that Census Bureau headquarters would not allow them to modify operations due to the pre-established national period for TNSOL enumeration (midnight to dawn).

civic groups. There has been growing understanding that, despite persistent undercounts of ethnic minorities, the Census Bureau's partnerships with community-based organizations could not rely simply on the internal hierarchical structure of national organizations such as NAACP, NCLR, or LULAC to take responsibility for census partnerships.

CRLA's representative to the Secretary's Advisory Committee on the Decennial Census, Ilene Jacobs, has consistently worked with the Census Bureau's national headquarters and regional offices to build awareness of the need for diverse grassroots, local partnerships, to identify problematic areas of decennial operations which could be improved through expanded local partnerships, and to explore how to put these in place.[49] The Census Bureau has worked steadily to expand its partnership program to include a more diverse spectrum of local organizations which interact daily with and are trusted by historically-undercounted groups. An important part of the efforts of organizations funded by The California Endowment for Census 2010 and other groups with which they collaborate has been to promote census participation by working directly with the hard-to-count populations they serve and to work indirectly by assisting the Census Bureau's local offices in their own Census promotion campaign. Local organizations with close ties to the Mexican immigrant and farmworker communities that worked on enhancing Census 2010 in the rural areas of the San Joaquin Valley and California Central Coast included CRLA, Inc., Immigrant Legal Resource Center, Centro Binacional para el Desarollo Indigena Oaxaqueno, Central California Legal Services, Clinica Sierra Vista, Unidad Popular Benito Juarez, and Proteus, Inc.

The Census Bureau also relied on paid advertising, in addition to old-fashioned promotional approaches such as giveaways of items like T-shirts and shopping bags, as a strand in its strategy for the 2010 Decennial Census. A new element of this strategy in California was to provide a modest level of support to New America Media, an association of ethnic media outlets which is very active in the state and nationally as well. Several non-commercial Spanish language community radio stations, Radio Bilingue

[49] For example, Census Bureau efforts to improve its Master Address File (MAF) relied only on local governments for reviewing the MAF and suggesting improvements via the LUCA process. CRLA's assistance in identifying low-visibility addresses in 2000 was recognized by GAO as having had a significant positive impact on MAF quality in the San Joaquin Valley. Yet more work will be needed to fulfill the full potential of Bureau-community partnerships, particularly in the areas of MAF improvement, recruitment and training of enumerators, and development of media campaigns tailored to the distinctive concerns and hard-to-count populations of diverse communities. See Testimony of Ilene J. Jacobs, "The 2010 Census Master Address File: Issues and Concerns", Information Policy, Census and National Archives Subcommittee of the Oversight and Government Reform Committee, October 21, 2009 for an example of the sorts of issues that might be addressed with enhanced partnerships.

and Radio Campesina, also participated vigorously in the campaign and, to a lesser degree, so did the commercial Spanish language radio stations in the area, important considerations given that the HTC tracts in the study area are Latino-majority, Spanish-dominant ones. Univision, via a national partnership with the Census Bureau and collaboration with organizations such as NALEO and MALDEF, also worked vigorously to promote census participation among Latino households.

Evaluation of pro-social campaigns, including media components and on-the-ground "outreach" efforts such as the Census 2010 promotion effort, is complex because actual behavioral impact (i.e. actually completing a census form accurately/correctly, and returning it via mail) is the result of multiple interacting forces which affect knowledge, beliefs, attitudes, aspirations, and behavior. Standard evaluations of such campaigns tend to look primarily at market penetration and promotional campaign impact on the knowledge, beliefs, and attitudes of those they reach because determining campaign impact on aspirations and behavior is difficult and costly. This situation is problematic because evaluation research on census promotion shows that past campaigns have had measurable impact on knowledge and beliefs regarding the census but less clear-cut impacts on attitudes, aspirations and behavior.

We sought to assess the Census 2010 promotion effort in the rural hard-to-count tracts because the available research focuses more on census undercount among urban ethnic minorities than among the areas with high concentrations of Latino immigrants where CRLA, Inc. works.

Reaching Latino Audiences in the Hard-to-Count Tracts

Survey respondents were asked whether they had been exposed to messages via mass media (TV, radio, print), within their social networks (family, friends, co-workers, or neighbors), or been contacted by an organization involved in census outreach regarding the importance of census participation.

Table 1 on the next page shows the extent to which the census promotion campaign reached households in the HTC tracts. Market penetration in these areas was very high and campaign efforts appear to have been more successful in reaching Latino households than in reaching White households.

Table 1-Census Promotion Campaign Reach

Modes of Communication	Market Penetration/% Target Segment Reached		
	Latino	White	Overall
Mass Media--Broadcast			
Saw TV ad*	89%	77%	86%
Heard Radio Message*	66%	52%	62%
Some broadcast exposure*	97%	86%	94%
Mass Media--Print/Outdoor			
Flyer or Pamphlet	38%	36%	37%
Magazine or newspaper article	17%	14%	16%
Mailing from a public agency or community group	2%	6%	3%
Mailing from church or other organization	3%	1%	3%
Other (billboards, bus ads)	2%	7%	3%
Some print/outdoor exposure	59%	63%	61%
Social Networks			
Family Member*	28%	12%	24%
Friend, or Co-Worker, Neighbor*	22%	10%	21%
Some social network exposure*	48%	29%	45%
Organizational Outreach			
"Community" organization (including schools, immigrant organizations, CRLA)*	7%	---	6%
Service Organization (like a health clinic)	3%	---	3%
Church	14%	11%	13%

** Statistically significant difference in reaching Latino households with p<.05 Cell percentages rounded.*

Organizational outreach most commonly mentioned by respondents was from churches and their children's schools. There was a good deal of overlap between media messaging and organizational

outreach but it appears that organizational outreach did have a marginal positive impact on the beliefs and attitudes of some of those who had not been reached or convinced by the media campaign. **Table 1** demonstrates that organizational outreach to Latino households achieved better market penetration than did outreach to White households.

Census Promotion Campaign Impact on Target Audience Knowledge, Beliefs, and Census Response

The study includes two indicators of the census promotion campaign's impact on the hard-to-count households' knowledge and beliefs regarding the decennial census: an indicator of respondent belief in the importance of census response (Q. 20) and an indicator of belief about the confidentiality of information collected by the census (Q. 21). These indicators are considered in relation to actual census participation as shown by return of the census form by the households that received one.

Importance of Census Participation

The 2010 census promotion campaign appears to have had an impact on Latino households' beliefs regarding the importance of census participation. More Latino respondents (86%) than Whites (78%) said that they thought census participation was "very important".[50] Interviewers observed widespread recognition and mention of the benefits that result from communities being counted (e.g. schools, hospitals). Survey respondents' attitudes regarding the importance of filling out the census form were highly correlated with their reports of actually having filled out the form, but apparently a few who did think census response was important failed to actually mail the form back, a distinct possibility in low-income households, particularly the more complex, or larger ones.[51]

It deserves note that there is a small proportion of the Latino (4.9%) and White (4.1%) respondents who expressed negative opinions about the census, "they don't need to know about us". The negative opinions from Whites typically were framed in terms of government inefficiency/size while the negative

[50] There are few respondents of "other" ethnicity (African-American, American Indian, Asian) so there are uncertainties regarding their actual level of response, but the tabulations show 80% stating the census was very important.

[51] It is possible that some survey responses about having returned the census form are false positives stemming from the respondent seeking to provide the interviewer with the "right" answer. Unfortunately, we have no means of definitively determining whether the households which reported returning forms actually did so. However, we believe that the level of inaccurate responses is low since interviewers were drawn from the hard-to-count population themselves, were carefully trained on avoiding bias, and did well at establishing rapport with respondents.

Latino opinions, not surprisingly, hinged on "the gaze of surveillance", government's role in round-up of unauthorized immigrants, or the general context of other anti-immigrant public sentiment or government behavior (such as denial of access to health care benefits).[52] A similar proportion of the White and Latino respondents (6.8% of the Whites and 4.6% of the Latinos) said they did not know whether it was important to participate in the census, a response that indicates lack of campaign impact. Only one in ten Latino and non-Hispanic White households appear not to have been reached effectively by the census promotion campaign.

One category of response to the question about census participation was that "people should respond but it's not so important". We interpret this to represent the gap between beliefs and aspirations, the commonplace (and challenging) problem when a sub-group within a targeted population have "heard" the message but not embraced it as something to motivate their own behavior. Fewer Latino respondents (3.3%) than White respondents (11.0%) fell into this intermediate motivational category where a message recipient accepts the desirability of census participation but does not fully embrace it.

Beliefs about Confidentiality of Information Provided to the Census

The 2010 promotion campaign appears to have done a fairly good job of convincing households that the information provided to the census is confidential. Fewer of the survey respondents, however, believed in the confidentiality of census information than in the importance of census response. Three-quarters of the survey respondents (75%) believed the census information would be confidential but 11% were unsure and 12% believed the information would be shared with other government agencies. Slightly more of the White than the Latino respondents distrusted that census data would be confidential, but there was not a statistically significant difference in the beliefs of the two groups on this issue. Farmworker households were more likely than non-farmworker households to believe that census information was confidential --with 83% of the farmworker households trusting the information would

[52] There was, however, no evidence in the survey responses that a local campaign organized around refusing to answer census questions until Congress passed immigration reform legislation had an impact. We know that local media in contact with grantees of the California Endowment, CRLA, Inc., New America Media, CBDIO, Union Popular Benito Juarez, and other local community-based organizations, were vigorously engaged in promoting the benefits of census participation and that this was likely to have countered the misguided anti-census organizing.

be confidential vs. 70% of the non-farmworker households.[53] The immigrants who had lived in the U.S. longest were most confident that the information would be confidential.[54]

Reported Impact of Media Messages

Behavioral impact of media campaigns on audience beliefs must be considered in light of whether those who were exposed to the media message were already convinced to "do the right thing". Two of five survey respondents (40%), in both White and Latino households, said they had heard a census message but already had been convinced ahead of time. The media campaign made the most clearly observable difference in convincing Latino households to fill out the questionnaire: 38% of the survey respondents said the messages had helped convince them to fill out and return the questionnaire while only 16% of the White households said the messages had an impact on them.[55]

Overall Effectiveness of Census Promotion Campaign

The census promotion campaign appears to have been quite effective in the studied hard-to-count areas. The fact that the media campaign reached a higher proportion of Latino than White households is particularly noteworthy. **Table 1** data show that Spanish-language television and radio played a major role in this achievement. Special census promotion events, by contrast, reached few people and had negligible impact on return of mailed census forms.[56]

An important finding closely linked to the high level of interest in census participation, belief in the benefits of the census, and mail return from Latino households, is that more of the Latino households

[53] This is a statistically significant relationship where p<.01

[54] We examined the relationship between immigrants' length of time in the U.S. and belief in confidentiality of the census data and found the longest settled immigrants to be the most confident that the data would be confidential—but the relationship between length of time in the U.S. and belief in confidentiality is not statistically significant. This is because the relationship between belief in confidentiality and length of time in the U.S. is non-linear due to the fact that the very recently-arrived immigrants (<2 years in the U.S.) are almost as trusting as the long-term settlers (>10 years in the U.S.). The most distrustful immigrant households are those which have been in the U.S. 2-5 years>

[55] The tabulation of responses may exaggerate the differences between media campaign impact on the two groups because more of the interviews with White households were with surrogates who had not, themselves, filled out the form. However, more of the White households also said specifically that the message had not affected them. Discussions with interviewers suggest this stems, in part, from a small minority of White households who are actively distrustful/negative about government initiatives.

[56] Less than 0.5% of respondents mentioned having attended such a special event.

were exposed to social network contacts that involved some form of census promotion. It is difficult to identify which elements of the census promotion strategy generated the social network "buzz" around the topic of census participation, as even very sophisticated media research has difficulty in fully determining the precise dynamics through which social networks give rise to a groundswell of popular opinion about the social desirability of a particular kind of behavior. Nonetheless, it is clear that campaigns which make reference to locally-prevailing social norms and behavior (as opposed to abstractly-framed normative behavior) have greater impact than those which do not.[57] It does seem clear that while more households were "touched" by media than they were by either social network influences or organizational outreach, the combination of influences from different quadrants significantly influenced positive results.

The role played by family, friends, neighbors, and co-workers, in conjunction with trusted local organizations such as churches and schools, in fostering census participation deserves particular attention because it appears that households in the hard-to-count tracts, particularly the Latino households, were successfully motivated to be enumerated. The campaign overlay of active involvement by the trusted sources of information seems to have functioned to convert "knowledge about the census", i.e. standard media messages giving the positive rationale (benefits) and countering the negative rationale (non-confidentiality), into beliefs and trust. It is very unlikely, however, that the successful census promotion campaign could have leveraged high levels of mail return without the targeted mailing of Spanish-language forms.

[57] A Wall Street Journal Article ("The Secret to Turning Consumers Green" October 18, 2010) summarizes findings from research—by social psychologist Robert Gialdini of Arizona State University-- on the impact of two campaigns, one to convince hotel guests to re-use towels, the other to promote use of fans instead of air conditioning. Versions of messages which included reference to proximate social groups were demonstrably more effective. This has important implications for Census Bureau media strategy, particularly where hard-to-count groups feel threatened by mainstream society; the most effective census promotion campaigns in such communities, as in those we studied, will have prominent cues confirming that the messages are "from people like us to people like us". Radio Bilingue CRLA, and Aguirre/JBS worked collaboratively in efforts to configure the network's Spanish-language census promotion campaign to include "message cues" signaling reference of proximate social groups' norms. One of the most obvious of these cues was production of public service announcements in Mixtec and Triqui—strategically important not simply to facilitate understanding but also to signal social closeness.

Effectiveness of Support for Getting Census Forms (Be Counted Centers) and Questionnaire Assistance Centers (QACs)

The Census Bureau actively consulted with community-based groups and local municipalities about locations for Questionnaire Assistance Centers (QACs) and Be Counted Centers (BCs). A new initiative resulted in some of these census participation support facilities being placed in small mom-and-pop stores and community organization venues, in addition to the Census Bureau's traditional reliance on post offices, city government offices, libraries, and other similar places for providing help to persons who needed help in filling out the form or who did not receive a mailed form and wanted to be counted. Our own recent research in rural areas with concentrations of Latino immigrants makes it clear that immigrant-owned and operated small businesses play a major role in shaping attitudes on community issues and in promoting and facilitating civic engagement.[58]

Many households in the HTC tracts, however, were not aware of the existence of local QACs or BCs. Fewer than half the survey respondents (42%) knew that there was a local QAC and three-quarters of those individuals did not need help completing their census form. Only 2% of survey respondents said that they wanted help from a QAC and, ultimately, only one person did.

This finding must be understood in light of local life. The formal sources of assistance in filling out census forms had little impact on forms completion, but informal social networks played an important role in helping households that needed help in filling out their forms. More than one in seven (13%) of the survey respondents said a family member, friend, or neighbor had helped them to complete the form. This reliance on informal social networks for forms completion is understandable, because seeking assistance from one's own social network involves less "loss of face" in confessing one's own problems with reading or understanding how to complete forms and more *confianza* (trust).[59]

It also was not necessarily feasible for households that wanted help in completing a form to actually find time or energy to travel to a QAC during the hours it was open or to find a ride to one. We discuss later our observations of a small sample of QACs in Fresno County which suggested that hiring preferences

[58] David Griffith, "Latino Entrepreneurs in North Carolina", presentation to the Rural Sociology Association annual conference, July, 2009. Ed Kissam, "Latino Entrepreneurs in Woodburn, Oregon", presentation to the Rural Sociology Association, July, 2009.

[59] *Confianza* actually implies, not simply "trust" but also closeness of social linkage and the presumption that discussions will avoid being judgmental.

for citizens over legal permanent residents seems to have resulted in hiring some QAC workers who did not have the linguistic or social skills required to make the QAC experience an entirely "user-friendly" one.[60]

Superior social skills and persuasive communication was not necessarily enough to convince some sub-groups of reluctant respondents; the site visits included a memorable visit to a small store in western Fresno County where a dynamic and strongly-motivated store employee described her futile efforts to convince recently-immigrated farmworkers in the local area to fill out the form.[61]

A negligible number (1%) of survey respondents knew that Be Counted Centers had forms available that could be completed by households who had not received them in the mail. Only one survey respondent said they had gone to a BC for a form and the interviews included at least one case in which a landlady picked up Be Counted forms to give to the people living in the "back house". Survey respondents had a very fuzzy idea about how a "Be Counted Center" might differ from a "Questionnaire Assistance Center," but even in aggregate it appears the QAC/BC program had little impact. It also is not clear whether or not Be Counted forms that were completed by residents of non-mail housing units would be deleted in the course of Census Bureau "unduplication".[62]

Quality of Non-Response Followup

The Census Bureau in most cases successfully deployed Spanish-speaking enumerators during NRFU to secure information from Spanish-speaking households. Two-thirds (64%) of the Spanish-speaking households for whom we have information on NRFU said that the enumerator spoke Spanish very well and 14% said the enumerator spoke at least some Spanish. The remaining 22% of the Spanish-speaking household respondents said that the NRFU interviewer did not speak Spanish. Children or a relative in many of these cases translated the questions posed by the NRFU interviewer to an adult in the

[60] Ed Kissam report to CRLA, April 15, 2010. Some of the bilingual US-educated QAC workers who we spoke with were genuinely bilingual/bicultural and had the social skills to communicate effectively with the full spectrum of Mexican immigrants in the area but we observed that others were limited in Spanish.

[61] She filled out her own census form in front of a group of solo farmworkers who had come to her store to buy supplies to demonstrate that it would be "safe" to fill out the census form and that the information was confidential. The group laughingly told her that they were not convinced because they knew she had papers (and so was not at risk of ICE using the information she provided to deport her).

[62] We are not certain to what extent Census Bureau quality assurance procedures result in degraded quality due to difficulties in recognizing that in areas such as the study area, two forms from a "place", a cluster of housing units with a single mail address, constitute the best representation of persons living in the location.

household. Respondents generally said that the follow-up interviews had been courteous and professional, even where the enumerator did not speak Spanish or did not speak Spanish well. However, the scattered negative reports regarding NRFU underscore the difficulties that arise when enumerators are not bilingual. An indigenous-origin farmworker who spoke only limited Spanish was unable to communicate with an enumerator who spoke virtually no Spanish, resulting in the enumerator leaving and no return visit. The survey respondent did not know what information might have been reported for his household. The NRFU enumerator in another instance would not allow the head of household to tell her about everyone living in the location and in another case the only person home was the survey respondent's niece who was not able or willing to answer the questions the enumerator posed to her and there was no return visit.

The overwhelming majority (80%) of the survey respondents we contacted regarding their experience in talking with an enumerator said the enumerator communicated well with them and their questions were easy to understand, but in 8% of the cases, respondents experienced a great deal of difficulty in understanding the reason for the enumerator's visit.[63]

Census Enumeration Outcomes

The quality of decennial census efforts ultimately is judged by results. We have been able to definitively determine the enumeration status of 399 (94.1%) of the surveyed households based on initial interviews and follow-up interviews at these addresses. We also reviewed individually each of the 5.9% of the cases in our sample where we were unable to definitively determine household enumeration status because our own interviewers were unable to re-interview our original survey respondent or a proxy. The following section reports a solid, conservative estimate of census outcomes based on the cases which we definitively resolved, discusses uncertainties about the status of the unresolved cases, and offers a "best estimate" based on our imputed enumeration status for the households we were unable to reinterview. [64]

[63] The respondent in one out of eight cases (12%) said they had a few problems understanding what the enumerator meant, but these were not generally serious problems or reflect on quality of enumeration (e.g. difficulties with the race and/or Hispanic origin question).

[64] At the conclusion of the study (August 20, 2010) we were unable to re-contact 25 households in the sample. As is the case in Census Bureau studies of coverage measurement we, therefore, report a range of possible undercount—for the cases which were successfully resolved and, also, best estimates based on our imputing outcomes for the unresolved cases based on the information which was available. (See discussion below.)

A Conservative Estimate of Total Household Omissions

Households in our study sample which reported that they had not returned a census form at the time our interviewer first contacted them (in May or June) and that they had not been contacted by an enumerator were contacted again to determine whether or not they had eventually been enumerated over the course of NRFU.

Our survey results indicate that at least 79.9% of the households in the rural HTC tracts in the study received a census form and returned it by mail.[65] In at least another 10.6% of the cases, the household had not filled out the form or had filled it out and neglected to mail it but had subsequently been visited and enumerated in the course of NRFU when we interviewed them (usually in May or June).

Based on our interviews, the observed minimum rate of total household omissions, i.e., the proportion of households which had not returned a census form by mail or said definitively that "no one from the Census" had enumerated them when we talked to them after NRFU had been completed, is at least 3.8%.[66]

Finally, in 5.9% of the households we surveyed where a census form had not arrived by mail or been dropped off or where the survey respondent said during the initial interview that they had not returned the form, we were unable to re-contact the person who had initially been interviewed or a proxy to determine whether the household had been enumerated during the course of NRFU

The analysis of households that were definitely totally omitted from the census demonstrates that there are two sets of statistically significant correlates of total household omission, one related to housing

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[65] The respondent in 8.3% of the households said that they did not have mail delivery. The respondent in more than half of these cases (4.7% of all the households), said that someone from the Census Bureau either had left a form or come to do an interview even though the household had not received a mailed form. We believe that in some of the cases where the respondent said their household was visited by Census Bureau personnel despite their not having received a mailed form, what actually may have happened if that a form was actually mailed and delivered but not returned. We cannot determine the proportion of cases where that happened. It does appear that there were, in addition to clear-cut cases where update-leave was used, some cases in which households not originally in the MAF were enumerated in the course of NRFU.

[66] This includes one household where an enumerator could not communicate with the person who answered the door, asked no questions, and where no one came back to secure information, and one case in which the respondent believed she had already been contacted by an enumerator and refused to provide information to the enumerator because she believed she had already been counted.

conditions, what we refer to as "structural" correlates of undercount, the other related to household composition, which we refer to as "respondent" correlates of undercount.

Households without mail delivery or living in an "unusual" low-visibility housing unit such as a "back house" or a garage, continue to be missed at a significantly higher rate than others. While alternative "structural" indicators of risk of total household omission which we used overlap, each is independently correlated with the likelihood that everyone living at that particular place will be missed.[67]

Only 73% of the housing units which were categorized by interviewers as "unusual" low-visibility units ("back houses", garages and other sub-standard accommodations) were successfully enumerated while 97% of the other housing units were successfully enumerated. Basically, this indicates that NRFU had some success in enumerating these sorts of places but that they are, nonetheless, still at much higher risk of not being counted than individuals living in other sorts of housing accommodations

The other correlate of total household omission is the length of time the survey respondent has been in the U.S. One out of six (17.7%) of the immigrant households where the survey respondent (P1) had been in the U.S. for 5 years or less were totally omitted, while only 1.6% of the households where the survey respondent had lived in the U.S. for 6 or more years were totally omitted.[68] It is important to note that while farmworker households were generally as likely to be counted as non-farmworker households and Latino households were as likely to be counted as non-Latino ones, the persons who were not enumerated as a result of living in a low-visibility, "back house", "cuartito" (bedroom or nook where a lodger or lodgers live), or garage, worked in the lowest-wage, most unstable, sectors, of the labor market, i.e., farm work or construction.

The two distinct correlates of undercount, characteristics of one's housing accommodations and a household's length of time in the U.S., are intertwined because the more recent immigrants (as well as those with less mature village migration networks are inevitably those who have the greatest difficulty finding housing initially after arriving in California, and in earning a living—since access to work and

[67] This relationship is statistically significant ($p<.01$). The cluster of "structural" correlates of total household omission—living in a low-visibility housing unit, living at a place where there is a cluster of housing units, not having mail delivery, having a PO box-- are co-variant but not perfectly. For example, not all households living in low-visibility non-mail housing have a PO box but some do.

[68] Chi -square and Likelihood Ratio $p<.05$ for XTAB P1YRSINUS X TOTHH_MISSED

housing alike are mediated by social network affiliation. Consequently the most recent arrivals are the most likely to be living in sub-standard housing conditions.

A "Best Estimate" of Total Household Omissions Based on Imputed States of Households Which We Were Unable to Re=interview

We reviewed the 25 unresolved cases (which make up 5.9% of our overall study sample) where there should have been NRFU because a mailed or dropped-off form was not returned by the people living there but where our interviewers had not been able to successfully conduct a re-interview, in order to infer whether these households had been enumerated or not. We imputed enumeration status for these households to yield a "best guess" about their final enumeration status based on the information we had secured in the initial interview and our field research supervisors' notes on efforts to contact them for a re-interview.

We believe that 12 of the households we were unable to re-interview were probably successfully enumerated in the course of NRFU because the respondent had told our interviewer during the initial interview that they did receive a mailed census form or that they "got some letters from the government and threw them away"; therefore we believe their household was part of the MAF and very likely to have been contacted by Census Bureau enumerators. However, we believe that 5 of the households we could not re-contact (because their phone was disconnected) probably were missed in the course of NRFU because they probably had moved out soon after our initial interview with them.[69] We believe that the 8 remaining households where a survey respondent had said during the initial interview that they definitely failed to receive a mailed or dropped-off census form were not enumerated.[70].

Obviously, our assumptions regarding the final enumeration status of each of these sub-groups of households in our survey sample where we were unable to definitively determine their final enumeration status may be imperfect but it is likely, also, that our imputation errors cancel each other

[69] This implies that NRFU was successful in reaching about two-thirds of the households which were included in the MAF. Our own follow-up efforts to "resolve" cases where a survey respondent told us they had not returned the form and had not been contacted in the course of NRFU took place very soon after NRFU (July 1-August 19), so we believe that the 5 households we called where a telephone was disconnected were most likely out-movers and were quite likely not to have been successfully contacted by enumerators during NRFU either.

[70] Two did not get a census form because they had no mail delivery and did not have a form left at their house and 6 told our interviewer that they did have mail delivery but did not get a form.

out to a certain degree. For example, while some of the households with disconnected telephones which we believe not to have been enumerated may, in fact, have been enumerated, some of the others who had mail delivery and accepted an initial interview with us but refused or was not available for our followup interview (all of which we assume to have been enumerated) may, in fact, have refused to talk to an enumerator.

Our best estimate is that about half of these households where we were unable to get definitive information were successfully enumerated and that about half were not.[71] Our best estimate is that the actual rate of total household omission, after this adjustment, was about 5.9%.[72]

Conclusions Regarding Factors Contributing to Successful Enumeration vs. Household Omission

Whether the rate of total household omission was as high as 5.9% (our best estimate) or as low as 3.8% (the most conservative estimate), or somewhere in between, Census 2010 coverage of households in the HTC tracts in the San Joaquin Valley and Central Coast counties where CRLA works was significantly improved from previous decennials. Our survey data point to some positive developments that contributed to this increased success, i.e., mailing Spanish-language questionnaires to improve the mail response rate, utilization of update-leave procedures to assure that households without mail delivery would receive a form, a targeted media campaign and deployment of bilingual interviewers in the course of NRFU.

The study shows that the leading cause of total household omission is difficulty in assuring that all the low-visibility housing units in these low-income rural, immigrant-majority census tracts are incorporated

[71] Reviewing the available demographic and socioeconomic profile of unresolved cases, we can presently discern no clear-cut bias in the sorts of households where we were not able to conduct a follow-up interview (e.g. because a telephone was disconnected, the household refused to talk to our interviewer when they requested information about whether the respondent had been contacted in the course of NRFU) so we believe that the reported outcomes are a reliable representation of actual outcomes. Obviously, households with disconnected telephones are distinguishable from those which maintain telephone service in some respects (presumably poverty) but there did not seem to be a bias with respect to the factors of primary concern to us in relation to undercount such as ethnicity, English-language ability, household size, etc.

[72] There are, of course, inherent uncertainties in survey research which affect this analysis. For example, a respondent may have provided an interviewer the socially desirable "correct" answer that they returned a census form when they didn't, which would suggest a higher rate of enumeration than is actually the case (since we had no means of independently verifying whether a households where the respondent said they had returned the form had actually done so). Conversely, respondents who said they definitely did not receive a form and who we presume to not be part of the MAF may, in fact, have received a form, failed to fill it out, and have been contacted in NRFU even though we could not re-contact them to determine if this was the case.

into the Master Address File. The most likely persons missed are unrelated families living in substandard housing without mail delivery. Three of the addresses surveyed where the "front house" had been enumerated were places where additional people lived in a back garage, for example. A recent lone male migrant from Chiapas lived in the garage at one of these locations. In another case, nine Michoacanos lived in the "front house" while two additional Oaxacan families lived in dwellings in back of the house. In another case, nine Zacatecan immigrants in a large, extended family lived in the "front" house while six lone male migrants lived in the garage in back and the survey respondent we spoke with at the main house (i.e. the housing unit with the mail address) did not know much about these people living in the garage.

Although MAF quality continues to be the primary problem, our study also shows a secondary problem stemming from continuing limitations in the Census Bureau's ability to deploy bicultural and bilingual enumerators for NRFU.[73]

It is important to remember that the sampling frame for the current study did not include targeted non-sheltered outdoor locations or farm labor camps; thus, the current evaluation of the decennial census coverage is likely to overstate the overall success of the decennial census operations in this rural area. Our field observations in March-April, 2010 showed substantial increases in the numbers of homeless immigrant farmworkers living in the fields and in abandoned buildings and houses, possibly 1-2% of the total hard-to-count population.

Partial Household Omissions

3.9% of the households that returned a form by mail had some people in the household who were omitted on the returned form, i.e., were cases where the survey respondent told one of our interviewers that the person who mailed back the census form "forgot" to include someone in the household.

Exactly what it means to have "forgotten" to include someone on one's census form is not always entirely clear. The competing concepts of "household" as "my family" or as "all persons living in a

[73] The formal job descriptions and hiring requirements are not ideally aligned with the functional competencies required of enumerators (which are more closely linked to knowledge of local community housing patterns and ability to communicate effectively and gain respondents' trust than to educational attainment and English-language ability. To be sure, sound clerical skills and the ability to carry out information-related tasks in a systematic way are important core skills but they are not always all that is needed.

housing unit" or as "all persons living at a particular place (including hidden housing units without mail delivery)" lead to uncertainty among census respondents about whom to include on the form, irrespective of the fine print of census form instructions, because the "official" definitions are at odds with social constructs for thinking and talking about who lives in a "place". The partial household omissions are clustered in housing units with multiple unrelated families, with the majority (58%) of the partial household omissions being in this category. 7-8% of the overall households in the study sample fall into this category.[74]

Correct Household Count but Missing Data on Person 9-14

There also are census enumeration problems related directly to crowded housing; 5.7% of the surveyed households had 9 or more persons in them. Census data on number of persons in some of those households ultimately might be correct, i.e. in those cases where the respondent remembered to include everyone[75], but even in such cases where the number of persons in the household is correct, the characteristics of the people living in the large households may be skewed because the information on the race and Hispanic origin of the additional persons in the largest households would be missing in cases where there was no coverage follow-up.[76] Review of the interviews shows that the survey respondents in the large households said that they had remembered to include their telephone number on the form as instructed so there is a possibility that coverage follow-up was successful (since CFU was conducted primarily by telephone).[77] We were not able to adequately assess coverage follow-up for large households so it is unclear to what extent form space limitations biased tabulations.

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[74] Households categorized as multiple, unrelated families in this analysis include households of lone male migrant workers.

[75] The respondent in slightly more than half of the very large households (56% of those with 9 or more persons) said that they had remembered to include everyone, however, large households, especially those that are large because they include multiple unrelated social units, are much more likely to have someone left off the form than the smaller households with 8 or less persons.

[76] Our survey showed households with up to 15 persons. Our research focused on NRFU not on CFU, consequently we have too many cases where we do not know if there was a CFU telephone call to secure additional information on the race and Hispanic Origin of Persons 9+ in the household. We assume that in cases where a household was very large and did not return its form, the additional information was generated in the course of NRFU.

[77] One respondent in a very large household said they could not remember if they had included their telephone number on the form.

Aggregate Population Undercount

Table 2 below shows the components of undercount for households where we can definitively determine aggregate undercount and provides a very conservative estimate of undercount.

Table 2: 2010 Census Coverage in 30 Rural HTC Tracts in the San Joaquin Valley, Central Coast and South Coast Counties of Rural California			
Indicators of Census Quality	**Total Household Omission**	**Partial Household Omission**	**Aggregate Undercount**
% of Households Affected	3.8%	3.9%	7.7%
% of Population Missed	4.9%	2.2%	7.2%

** The total population in the entire sample of surveyed households numbers 1,920 persons, of whom 95 were missed as a result of total household omission and 43 as a result of partial household omission.*

If our "best estimate" of census undercount, i.e. including imputation of enumeration status for households we could not re-contact, is correct, the aggregate undercount is probably close to 9% of the overall population in the hard-to-count rural tracts.

Since, individuals in large households, particularly those who are not part of the nuclear family of the "primary family unit" living in a housing unit, or persons living in a low-visibility "back house", garage, "cuartito" or other sub-standard living arrangement in a multi-unit "place", i.e. clusters of housing units on a property with mail delivery to only one housing unit, experience the highest risk of undercount as a result of both total and partial household omission. Consequently, the most socially marginal sub-groups within the broader immigrant population in hard-to-count tracts are missed, even there is no easily-discernible undercount based on standard indicators such as renters vs. homeowners, or disparities in numbers of persons of Hispanic origin. In this regard, the problematic nature of the Hispanic origin and race questions is of particular concern since the flow of newly-arriving migrants

coming to work in US agriculture are from indigenous communities—racial minorities which are not recognized as such in census data.[78]

What we are seeing here is a newly-emerging pattern of 21st century differential undercount where race, as defined within the OMB conceptual framework, does not correlate as closely with social marginality as it did in the first half of the 20th century.[79] However, being a recent immigrant, which is correlated with being an ethnic and linguistic minority within the Hispanic population and with having a low level of educational attainment, is a significant factor in census undercount. The vicious cycle in which census undercount results in inequitable access to social program resources, education, and health services has been attenuated but not eliminated.

Summary Conclusions and Recommendations

The objective in our study was to examine, first of all, the outcomes of CRLA's and other community-based organizations' efforts to work in partnership with the Census Bureau and other concerned national and local organizations to improve enumeration of hard-to-count households in the 2010 decennial census. An over-arching consideration was to determine what aspects of the 2010 decennial census strategy, implementation, and partnership efforts contributed to census quality. A secondary objective was to assess the specific contributions CRLA, Inc. made to the effort.

[78] About one out of five US farmworkers is of indigenous origin (Gabbard et al 2008). A detailed analysis of overlapping questions on the National Agricultural Worker Survey shows that it is necessary to rely on multi-variable constructs based on responses about language spoken growing up, current preferred language, and ethnic self-identification to reliably identify indigenous survey respondents. A new question added to the National Agricultural Worker Survey in 2009 -- which *municipio* a respondent was born in -- will make it possible by 2011 to generate further-improved estimates of the ethnic composition of the US farm labor force using definitions consistent with those used by Mexican researchers at INEGI and CONAPO. The relationship between ethnicity and social marginality is further complicated by the phenomenon of competition between different migrant networks. In an analysis of data from our 1989 Farm Labor Survey in Parlier, CA, we demonstrated that affiliation with a more mature migration network was correlated with access to employment and economic well-being (Runsten, Kissam, and Intili 1991). The same patterns are observable in other communities where diverse Mexican migration networks compete for jobs (Kissam 2007).

[79] A good example about how racial/ethnic divisions which were quite evident during the first half of the 20th century were replaced with more subtle patterns of social and economic inequality within the Hispanic population is Weslaco, Texas, where a classic study of rural sociology (Rubel 1960) had demonstrated a sharp racial divide between town residents living north of the railroad tracks, mostly Mexican migrant workers, and Whites living south of the railroad tracks. When we surveyed Weslaco as part of our 1989 Farm Labor Supply Study for the Department of Labor we discovered that the same geographic social and ethnic disparities persisted although the entire town had become Hispanic (Griffith and Kissam 1995).

Evidence of Decreased but Persistent Differential Undercount and Recommendations

We considered overall census coverage to be one obviously important indicator of quality but, given the problematic consequences of differential undercount, an even more important consideration was whether there had been systematic undercount of any particular sub-populations in the area. The study also was designed to examine different aspects of Decennial Census implementation to see how each affected census operations, i.e., receipt of census forms via US mail or other means, mail return of census forms by the households that had received them, and enumeration in the course of non-response follow-up for households that had not received a form or had received it and not returned it.

Our findings show dramatic improvements in decennial coverage of rural hard-to-count populations of Mexican immigrants and farmworkers over the past two decades. The differential undercount of Hispanics has been attenuated by distribution of bilingual census forms. At the same time, the social policy and planning problems which arise from differential undercount persist. Our finding that census undercount was reduced to 7-9% in the rural HTC tracts shows that significant disparities remain (since this is about three or four times higher than undercount in other areas of the country), but that progress has been made.

Moreover, while overall Hispanic undercount has diminished, it appears that the undercount of recently-arrived immigrants, particularly those of indigenous origin, is very high. This not, as has been hypothesized by many, stem primarily from respondents' apprehension about confidentiality. It stems primarily from "structural" factors associated with undercount—the fact that the most socially and economically marginal individuals and families live in housing which often does not have mail delivery, in sub-standard low-visibility or actively concealed housing, typically in crowded accommodations where housing space is shared by unrelated male migrants or families.

Whether or not undercount of ethnic minorities within the Hispanic immigrant population constitutes differential racial undercount is a complex question, due to the arbitrary and intensely political issues surrounding definition of "race" in America. It is, however, a straightforward phenomenon from a social science perspective. In practical terms it means that certain sub-populations of recent immigrants, especially those from newer migration networks within the Mexican and Guatemalan immigrant

populations are denied equitable access to crucial health, social, and education services—in part due to flawed census data.[80]

A reasonable response to the evidence of systematic undercount of some of the immigrant sub-populations enumerated in the decennial census in rural HTC tracts will be for the Census Bureau to extend the scope of its partnership with local communities to determine, refine, and support use of practical approaches for adjusting data to assure more equitable distribution of formula-driven funding between states, counties, local municipalities, and the service organizations working in them.

Evaluation of the Census Bureau's Partnership with CRLA, Inc. and Other Community Organizations

The findings from our study have provided detailed answers to the first and most pressing set of questions about census coverage in the study area but only more general answers about the impact made by CRLA, Inc.

One reason we can answer the first set of questions regarding outcomes of census improvement efforts but cannot provide specific answers to the second set of questions about CRLA contributions is that the endeavor was a bona fide partnership where impacts can be clearly observed but cannot be easily attributed to any single organizational player.

The role of media-based census promotion is a case in point. The CRLA, Inc. project team (ourselves included) worked closely with Radio Bilingue in its efforts to develop a persuasive census campaign and with New America Media to address media challenges such as a grassroots effort to discourage census participation as a means of pressuring the federal government to enact immigration reform legislation. The study shows that the Spanish-language media campaign was very successful in reaching Latino households and the outcomes reflect positively on the Census Bureau's overall media campaign, on the locally-designed and targeted media efforts, and on the efforts of CRLA and other TCE grantees, without providing a means to attribute the specific contribution each partner made. Households' willingness to respond to the media messages stems in part from the efforts of trusted and respected local community-based organizations such as CRLA, Inc. and others, who reinforced the basic media message

[80] For details on the distribution of indigenous Mexican migrants from different migrant-sending communities and language groups in rural areas, see Richard Mines, Sandra Nichol, "Findings from the Indigenous Farmworker Survey", October, 2009. Our own analysis of New Pluralism survey data and new data from an Oregon Law Center survey of indigenous farmworkers in the Willamette Valley suggest that the ethnic/linguistic distribution of indigenous minorities along the Pacific Seaboard is similar to that in southern Mexico with the notable exception that speakers of Nahuatl, Yucatec Mayan languages, Tzeltal are under-represented.

and helped translate media exposure into actual willingness to fill out the census form or respond to enumerators.

CRLA's coordination with both the Los Angeles and the Seattle regional offices of the Census Bureau was exemplary. Census Bureau regional managers and their staff, as well as local census office (LCO) staff, devoted a good deal of time and effort to working with CRLA, Inc. to address key concerns. The 2010 Census Bureau-community partnership differed from previous collaborative efforts by greatly expanding the scope of collaboration, from the largely pro-forma, ceremonial realm of minimally-effective "special events" which took place in 1990 and 2000 into bona fide collaboration which also included consultation on location of QACs and BCs, efforts to improve the Master Address File, and coordination with the Census Bureau efforts to recruit and hire culturally-competent bilingual staff. CRLA, Inc.'s appointment to the national Advisory Committee on the Decennial Census for more than a decade has contributed substantially both to systemic improvements in census enumeration of farmworkers and other hard to count populations and to effective strategic and day-to-day collaboration in California.

The sophisticated model of census undercount in communities with high concentrations of Mexican immigrants developed by David Fein in the 1986 Test of Census-related operations in Los Angeles, our field research, and CIRS' research on MAF problems in Parlier, would have predicted an even more extensive undercount, as would our own research in rural communities within the same region of hard-to-count farmworker counties during the course of Census 2000. At the same time, there are real methodological constraints in comparing our "baseline" estimates of undercount in rural farmworker communities during the 1990 and 2000 decennial censuses to the current findings about 2010 undercount in the broader area of HTC tracts, but it is clear that there have been real improvements in enumeration of immigrant, and especially, farmworker, households.[81] The underlying causes of census undercount remain, since they stem as much from survey methodology as from respondent unwillingness to be counted, but they have been significantly mitigated.

[81] An additional component of MSFW undercount in previous decennial censuses, while the census long form was still in use, was that farmworkers might be totally omitted from census data or included and mis-identified because the long-form question on employment referenced a week of very low MSFW employment which, in many cases, "blocked" the possibility of correctly identifying a farmworker household (see Gabbard, Kissam, and Martin 1993). This particular data problem remains a challenge for the American Community Survey (ACS). Susan Gabbard, Director of the National Agricultural Worker Survey, has made a very important contribution to understanding this problem by noting that since ACS data from interviews conducted at different points in the year are averaged for tabulation of results for the year, the ACS inevitably results in serious distortion of workers such as MSFWs whose employment is seasonal.

One of the most important accomplishments that we have observed in Census 2010 is that farmworker households appear to have been as likely to be enumerated as non-farmworker households and there are no observable racial disparities in census enumeration in the rural HTC tracts in the study area, but that does not mean that all aspects of differential undercount have been eliminated because the poorest and most marginal households in the study area, those where recently-arrived Mexican immigrants and very poor families live in crowded sub-standard housing, are more likely than other groups to be missed in the Decennial Census.

It also is important to recognize that a substantial portion of federal, state, and local funding for education, health, and social services is now based on the American Community Survey (ACS), which is now the primary source of demographic and socioeconomic data on household composition and on sub-populations eligible for targeted programs. It will be crucial for the Census Bureau and stakeholders to build on their successful partnership in Census 2010 to assure that there will be similar improvements in the ACS. Some of the positive accomplishments from the 2010 decennial census, for example, the use of bilingual forms, can be easily transferred into ACS operations. Others, such as reliance on local partnerships to improve the Master Address File, updating the MAF throughout the decade, targeting hard to count populations and geography for special ACS operations, and identifying, recruiting, and training effective field survey personnel, are essential to a successful ACS but probably more difficult to implement. It will be important for the Census Bureau to work skillfully in continuing partnerships with ethnic media and other community-based organizations throughout the decade to build survey respondents' willingness to respond to the ACS procedures and interviewers.

Intensified efforts to improve the Master Address File (MAF) for the Decennial Census and the ACS will need to be a very high priority in order to improve census data on immigrant households in general and specifically immigrant and farmworker households in rural HTC tracts and other areas with concentrations of migrant and seasonal farmworkers. The current study suggests that the biggest single problem contributing to differential census undercount continues to be inability to assure that data is collected from everyone in crowded households and in low-visibility housing units, <u>not</u> problems of respondent motivation.

Collaboration in improving delivery of census forms to households in the rural counties of the study was generally very positive but we are aware of some lapses in quality.[82] Continued reliance on standard, mainstream concepts of "household" promulgated by OMB and reified by the Census Bureau in its survey methodology are not only flawed as social science but are a factor contributing to social injustice because they result in differential undercount of the individuals and families in most need of services from federally-funded, state-funded, and locally-funded education, health and social programs. The experience in Census 2010 suggests that expanding the scope of Census Bureau-local partnerships to more routinely, efficiently and effectively implement address listing is an important part of the solution, in addition to revising flawed OMB and Census Bureau definitions of household.

The welcome Census Bureau commitment to increased support of QACs and BCs in rural California communities, including locating them at easily-accessible friendly places such as corner stores and community-based organizations in addition to public buildings, appeared to be a promising initiative. However, our evaluation of this aspect of census operations does not provide evidence that these efforts had a significant impact. A limited set of site visits to QACs and BCs and discussions with the personnel who staffed them showed that few had been heavily used and our survey data shows little awareness or use of them. The feasibility of mobile QACs and BCs to bring questionnaire completion assistance to the doors of low-literate respondents rather than requiring them to shoulder the burden of seeking help should be evaluated.

Assessing the State-Level and National Implications of the Current Research

It is important to conclude with the recognition that although the current study provides a number of important insights regarding census enumeration of immigrant and farmworker households in rural HTC tracts, there are some inherent limitations to generalizing from the findings presented here. The study was conducted entirely within the Los Angeles region of the Census Bureau and reflects that regional office's very strong leadership; we have no way of knowing whether the strong organizational commitment to excellence and efforts to reduce differential undercount that we have observed in the

[82] The City of Los Banos in rural western Merced County found out, for example, that its input in the course of LUCA had been completely disregarded as evidenced by widespread complaints by households which had not received a mailed census form. The city took the initiative to address this problem proactively by delivering "Be Counted" forms directly to the households which had not received a mailed form. As part of its assessment of census collaboration, CRLA, Inc. is examining the extent to which its and other organizations' collaboration with the Census Bureau successfully addressed the "PO Box community" problem. (Ed Kissam field notes, "Report on BC and QAC's", April 15, 2010).

Los Angeles and Seattle regional offices' management of the Census Bureau extends to other regions of the country.

The study area also might differ from other rural parts of the country because housing often is located within well-demarcated community boundaries (due to the high value of agricultural land). Housing in these areas characteristically is also very crowded and unconventional, possibly more so than in other areas of the United States. Patterns of undercount of immigrant and farmworker households in the study area, therefore, might differ from those in other areas of the country with concentrations of farmworkers.[83]

It also is important to recognize that the current study has focused on enumeration of families and individuals living in physical housing units, albeit including unconventional and common "back houses", garages, "cuartitos", within the sampling frame. The study does not include assessment of the Census Bureau's implementation of the TNSOL program or any special initiatives to use special enumeration procedures to assure enumeration of migrant and seasonal farmworkers living in labor camps.

Although farmworker housing often is hidden, our study did not cover TNSOLS and it is not clear that places where the most marginal farmworkers congregate is adequately reflected in the Census Bureau's TNSOL list. This concern warrants further research. The difficulty of surveying different outdoor locations in this study area varies greatly from place to place, as do the challenges in enumerating farmworkers in labor camps, most of which are actively hidden illegal, substandard, or crowded housing while others are highly-visible publically-funded housing. We presume that undercount is a much more severe problem in these "special places" than in the neighborhoods surveyed in the current study. We also know that a relatively small proportion of California farmworkers live in formal, organized, funded labor camps and that many farmworkers live in fields, canyons, riverbottoms and camp out in abandoned dwellings, buildings, or in local orchards. Nonetheless, there is a great need to enumerate these populations, particularly due to the fact that they are much more socially and economically marginalized than individuals living in substandard but "normal" housing, and it is possible to generate upper-bound estimates through further research about how many of these farmworkers have been omitted from the census.

[83] We know, for example, from more than two decades of research in Southwest Florida, that there is more actively-hidden farmworker housing there than in rural California. In those areas of Florida, for example, farm labor camps are sometimes hidden in citrus groves while, in California, the high cost of land discourages this sort of use of land. We have, however, observed some of this type of actively hidden contractor-controlled housing in Kern County for example (Anna Garcia field notes, New Pluralism study, 2003).

Despite the inevitable limitations of the current study, we believe our overall conclusions regarding improvements in Census Bureau enumeration of immigrant and farmworker households, patterns of undercount which remain, the role played by media and census partner organizations' outreach in improving the mail return rate, and the overall success of the Census Bureau-CRLA partnership provide sound practical guidance regarding strategies for further improving census operations in the ACS and 2020 decennial census.

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APPENDIX A: 2010 CENSUS COVERAGE IN RURAL HTC TRACTS WITH HIGH CONCENTRATIONS OF MSFW'S WITHIN THE LOS ANGELES REGION OF CALIFORNIA

SAMPLING SUB-REGIONS	Communities	Natl. Rank as MSFW area	Est. % of MSFW's	HTC Tracts Surveyed
Fresno/Madera/Merced	***95 interviews***	#2	19%	
	Parlier area			006801
	Madera area			000502
	Reedley area			006601
	Selma area			007100
	Selma area			007002
	Winton area			000504
	Madera area			000900
	Fresno westside			008302
Kern	***60 interviews***	#3	11%	
	Delano			004901
	East Bakersfield area			1102
	Wasco			004500
	East Bakersfield area			002302
	Buttonwillow area			003700
	Mojave area			005900
Kings/Tulare	***64 interviews***	#8	11%	
	Visalia area			001701
	Avenal area			001701
	Visalia area			002008
	Lindsay area			002601
	Porterville area			004101
	Pixley area			004200
	Earlimart Area			004300
Monterey	***78 interviews***	#1	13%	
	East Salinas			000600
	East Salinas			000700
	King City area			11301
San Diego	***39 interviews***	#7	7%	
	Vista area			019501
	San Marcos area			020009
	Escondido area			020202
Santa Barbara	***34 interviews***	#9	6%	
	Santa Barbara			001102
	Santa Barbara			001204
	Santa Barbara			002902
Ventura	***53 interviews***	#4	10%	
	Ortonville			002300
	Port Hueneme			004400
	Nyland			005002
TOTAL COMPLETED/USABLE	***423 INTERVIEWS***		***77%***	

Appendix B
Survey Methodology and Sampling Design

Overview

The survey assessed census coverage in rural hard-to-count (HTC) tracts of a large sub-region of California agricultural counties. Survey data provides insights regarding census operations, census promotion and outreach campaign, special initiatives to assure access to and assistance in filling out forms (QAC's and BC's) as well as estimates of total household omission and partial household omission. The study was designed to provide answers to both summative and formative evaluation questions—how well the decennial census enumerated persons in the rural hard-to-count areas with concentrations of farmworkers and immigrants and to provide insights as to how different components might be improved. JBS's research strategy relied on a survey approach similar to that used by the Census Bureau itself—a post-enumeration survey in order to assess 2010 census coverage, as well as Census Bureau community partnership activities in the counties served by CRLA. The survey also asked respondents about their beliefs about the census and their experiences in the census process to provide insights for assessing the quality of distinct components of the decennial process (e.g. mail delivery of forms, media campaign, functioning of Questionnaire Assistance Centers).

Initial interviews were conducted between May 5 and July 15, 2010 at 423 randomly-sampled housing units to determine if they had received a mailed census form, or received a form some other way, and if they had filled it out and mailed it back. In cases where a housing unit had received a mailed census form and reported mailing it back at the time of the initial interview and cases where a housing unit may not have returned a form but had been visited by an NRFU enumerator, the interview process was complete after the initial interview. Interviews also elicited information on respondents' exposure to the census promotion campaign, attitudes about the census, and summary demographic information about persons in the household(s) living there.

Housing units where a survey respondent said during the initial interview that they had not received a census form and had not been visited by an enumerator and housing units where a census form had been received but not returned and no enumerator had completed a NRFU interview with them were re=contacted after the end of NRFU—which ended July 10, 2010. Between August 1 and August 20 we re-contacted those survey respondents who said their housing unit had not been enumerated at the time of the initial interview in order to determine whether they had been enumerated.

Multiple efforts were made to re-contact these households where we did not know if they had been enumerated in the course of NRFU in order to "resolve" their enumeration status. Eventually, the enumeration status was definitively determined for 398 of the housing units. We report estimates of census coverage based on analysis of these cases as well as "best estimates" generated by imputing enumeration status for the 25 housing units that we were not able to successfully re-interview to definitively determine their enumeration status.

Sample Design and Households Surveyed

The sample of housing units surveyed was drawn using multi-stage random sampling. An overview of the sample with information on the counties included in the study, estimated farmworker population in each county, sampled hard-to-count tracts, and interviewed households per sampled tract is provided in Appendix A

Study Area

In order to use limited research resources effectively, the study was confined to the CRLA service counties with high concentration of migrant and seasonal farmworkers within the Los Angeles region of the Census Bureau. Ultimately, 10 counties were included in the study—in the San Joaquin Valley, Merced, Madera, Fresno, Tulare, Kings, and Kern counties; in the Central Coast and South Coast regions, Monterey County, Santa Barbara, Ventura, and San Diego Counties. Sub-region sampling units were combined in some cases to reflect farm labor market regions. Thus, Fresno, Madera, and Merced counties are treated as a single sub-regional

sampling unit, as are Kings and Tulare Counties. The remaining counties are single-county sub-regional sampling units.

Sampling of Rural HTC Tracts

A complete list of HTC tracts was drawn from the Census Bureau's planning database consisting of census tracts deemed "hard to count" based on multiple criteria believed to be correlated with low mail return rate and difficulty of enumeration.[84] The Census Bureau's national HTC database was provided to JBS International by Social Compact. Lists were made of all HTC tracts in the 10-county study sub-region.

Since the research priority was to examine enumeration of migrant and seasonal farmworker (MSFW) households, urban tracts (defined as those whose boundaries fell entirely within the city limits of major urban areas in the study counties—Merced, Fresno, and Bakersfield) were excluded from the study. The rural agricultural area of San Diego's "North County" was defined as consisting of the Carlsbad, San Marcos, Oceanside, and Escondido county sub-regions.[85] Tracts which were partially inside and partially outside the city limits of these urban areas were included. Ultimately, the list of rural HTC tracts included 154 tracts. A random sample of 33 HTC tracts was drawn from this sampling universe of all non-urban HTC tracts in the 10 county study area.

Sampling of Housing Units within the Rural HTC Tracts

The Census Bureau's 2000 HTC database included information on the number of housing units within each of the sampled HTC tracts and provided a basis for allocating the number of interviews to be completed within each tract. However, the allocation of sampled households was weighted by the proportion of MSFW households in each sub-regional area (in some cases a county, but, in other cases, a multi-county sub-region identified as being a single farm labor market—e.g. Fresno-Madera-Merced counties). A 2006 study conducted by JBS International for the Population Division of the Census Bureau included estimates of proportions of the California and national MSFW population within each sub-regional sampling area. Using the information on number of housing units and weighting the sub-regional areas yielded tract-by-tract allocations of housing units to be surveyed in each tract (as described in Appendix A).[86]

Approach to Augmenting Household Address Lists to Improve Completeness

Since we hypothesized that incompleteness of the Master Address File (MAF) was an important factor in census undercount, we sought to develop an improved sample of housing units by using an offset procedure to assure that housing units which were not included in either the MAF or standard address lists would be represented in the sample.

Address lists for each of the sampled HTC tracts was purchased from a commercial vendor and the allocated sample of housing units for interviews to be conducted was randomly drawn for each tract. This was used to generate a list of "target addresses" (all of which were mailing list addresses) for each tract. In order to assure inclusion of non-mail addresses, interviewers were asked to locate a target address and then to use an "offset" procedure to assure that non-mail households would be represented in the sample. The offset procedure required the interviewer to go to the housing unit immediately to the left of the target address to conduct the

[84] These criteria and the procedure used by the Census Bureau in assigning each tract an HTC score can be found in Antonio Bruce and J. Gregory Robinson, "Tract Level Planning Database with Census 2000 Data", US Department of Commerce, US Census Bureau.

[85] San Diego County Association of Governments, "2000 Census Tracts and Sub-Regions"

[86] Our initial plan had been to include all of the CRLA rural counties in the LA region and conduct 500 household interviews. We subsequently decided to not conduct the study in Imperial, Riverside, and San Luis Obispo counties due to operational limitations and we reduced the target of household interviews to 425. Eventually, 423 household interviews were completed successfully. Review of the tabulation of completed interviews shows that the final sample conforms very closely to the planned sample—although the desired sample of Merced County housing units where interviews were completed fell short by two housing units.

interview. If there was no housing unit to the left, they would go to the right and if there was none to the right, they were allowed to interview the actual target address.

This practical procedure for augmenting the household address lists was adequate for assuring that some non-mail housing units would be included in the survey. It works well where there are non-mail "back houses" or other substandard and/or illegal housing units scattered throughout a census tract—but it may well under-represent non-mail housing units when there are fairly large clusters of them, such as pockets of illegal and/or unauthorized/low-visibility dwellings within an HTC census tract (as in the case of farm labor camps). The procedure does not entirely overcome the challenge of including actively hidden encampments or makeshift farmworker living quarters (e.g. a barn not visible from the road which is used to house migrant farmworkers). The ideal procedure would include independent canvassing and mapping of housing units by trained field researchers familiar with housing patterns in the study area. Our study team included field researchers with this expertise but our budget did not make it feasible to devote the resources to this task, which would be necessary to develop an independent listing of all housing units in each of the 33 HTC tracts.

In one tract known to consist entirely of PO Box housing units where, therefore, a mail address list did not exist, the sample allocation of housing units was drawn by visually inspecting the housing in the tract, randomly choosing street blocks of houses and assigning one interview of the 8 allocated to the tract to each of the sampled blocks—with the housing unit to be interviewed designated as being the middle house on the north, east, south, or west side of each of the blocks in sequence.

Survey Implementation

Household interviews were conducted by six bilingual contract interviewers working for JBS International and by six CRLA community workers, a total of 12 interviewers, and two field supervisors. Eight of these interviewers were trilingual—in Spanish, English, and a Mixtec language, or Triqui.

Interviewers were provided with a full day of training on survey instruments and procedures (including an emphasis on securing survey respondents' informed consent, willingness to allow respondents to refuse to answer any question they considered too personal, and data security/confidentiality). Interviewer classroom training was followed by a half day of interviewing accompanied by a field research supervisor. Field research supervisors were available by phone to answer questions regarding sampling procedures and the survey instrument, or otherwise resolve problems. Survey respondents were provided with gift cards (for telephone calls or purchases at local stores) worth $10 as an honorarium to thank them for participating in the interview.

The initial round of interviews was conducted between May 5 and July 15, 2010. In order to determine what had happened in NRFU, in cases where a household had received a census form (via mail or left off by a Census Bureau representative) but not returned it and not been visited by an enumerator at the time of initial interview, or where a household had not received a form and not been visited by an enumerator, the survey field supervisor or a designated field researcher contacted the household by phone (if possible) or by making a return visit to the household. Cases where a phone was disconnected were considered unresolved as were cases where the person answering the phone refused to talk to the caller. In cases of households which did not answer the phone, up to 10 repeat calls were made at different times of day on different days.

Analytic Issues and Operational Challenges

Definition of Household, Housing Unit, and Housing Cluster

The decennial census is designed to work best in instances when there is one household per housing unit; however there are serious, and increasingly problematic issues which arise when, as is the case in the decennial census, survey methodology tacitly assumes that a respondent from one household can and will provide information on unrelated individuals who may be sharing an overcrowded housing unit with them. Articulating formal rules of discourse (the "residence rules") to be used in completing census forms about housing arrangements give rise to ambiguity where the social geography of personal relationships is fuzzily demarcated and where division of living space within housing units or clusters is unusual. These issues are particularly relevant to enumeration of rural immigrant households and individuals in the study because a significant number of housing units in this and other HTC areas of rural California have what we came to call "housing clusters" in the current research context -- that is, multiple housing units which are on a single piece

of property, where only a single unit which we refer to as the "main house" (or, in some cases, no unit) has a postal city-style address while other low-visibility housing units in the cluster have no mail delivery.

Within "housing clusters" and within housing units there are differing degrees of social cohesion—so that even in a single housing unit there may be several unrelated "households" and even more within "housing clusters" on the same property (even when these housing accommodations do not conform to Census Bureau guidelines for enumeration as group quarters). Adapting procedures developed by anthropologists working in other contexts (e.g. Alex Stepick's 1990 ethnographic research on census enumeration of Haitians in Miami) and farm labor researchers such as Richard Mines, we considered a "household" to be a social group of individuals linked by kinship or quasi-kinship ties and sharing food and economic resources regularly.

To this end, interviewers secured from the survey respondent at each sampled housing unit a list of all housing units in that "housing cluster" (i.e. dwellings on a single property which do not have separate postal addresses). This criterion assures that apartments, for example, were correctly treated as separate housing units in our survey (since each has its own mail address) but that single-family dwelling with an occupied trailer without a mail address in the back yard, for example, would be understood to be part of the sampled housing cluster (where the sampled housing unit was designated as Housing Unit Grid A and a separate unit in the cluster as Housing Unit Grid B). Survey respondents at the sampled housing unit were asked who lived in other housing units in the sampled cluster and about their social relationship with individuals living in the additional separate housing units (as well as with separate household/social units living within the sampled housing unit): nuclear family, extended family, *paisano*-shared village migration network, *paisano*-shared regional/state network, personal friend, co-worker, stranger. Ultimately, interviews showed that 8% of the sampled addresses had an additional non-mail unit (or "back house") on the property. Information was secured from the survey respondent whenever possible on persons in those "back houses" or other non-mail units but persons living in such dwellings were not interviewed directly except in the cases where a "back house" was, itself, the sampled unit in a housing cluster.

Respondent Selection

Potential respondents were all adults in a household. Interviewers conducted interviews with any adult at the housing unit who said they were knowledgeable about whether the household had received a census form and who had either filled out the form themself or were familiar with the process through which the form had been completed (e.g. sometimes by a relative who came over to the house to help with the form, or more commonly, the by respondent's spouse).

Non-Response

Interviewers were required to make up to 3 visits at different times of day (afternoon, evening, morning) to a sampled housing unit. Non-responding housing units were then replaced with a new target address and the off-set procedure was used to select a replacement housing unit for interview. Housing units where someone appeared to be at home but did not answer the door were re-visited—but if 3 visits were conducted and each time no one answered the door, the case was considered to be a refusal.

Refusals

Interviewers were asked to secure and record as much summary demographic and sociological profile information as possible on persons who refused the interview. Review of the information collected on refusals does not suggest significant bias. A diverse range of individuals refused to participate in our study interview. The primary reason for non-response was lack of time, although other reasons for non-response included annoyance with the Census Bureau, distrust of strangers in general, and distrust of strangers coming around close to census time who did not have a census bureau badge. It is likely that this resulted in slight underrepresentation of persons with active hostility or high levels of anxiety about census operations, but individuals refusing the interview also included mainstream individuals who may have heard census-related media coverage of census-related scams (although our interviewers were clear in stating that our survey was not the census but, rather, a study to learn about households' experiences with the census). Interviewer observations indicate that the actively hostile and/or worried/anxious potential respondents included both Hispanic and non-Hispanic individuals.

Imputation of Enumeration Status

We individually reviewed the available survey data for the 25 unresolved cases where our interviewers had not been able to successfully conduct a re-interview, in order to infer whether these households had been enumerated or not. We believe that 12 of these households were probably successfully enumerated in the course of NRFU because the respondent had initially told our interviewer that they did receive a mailed census form or that they "got some letters from the government and threw them away"; therefore we believe their household was part of the MAF and very likely to have been contacted by Census Bureau enumerators. However, we believe that 5 of the unresolved households probably were missed in the course of NRFU because they moved soon after April 1. We believe that the 8 remaining households where a survey respondent said they definitely failed to receive a census form (2 because they have no mail delivery and did not have a form left at their house and 6 who "have mail delivery" but who said they did not receive the form) were likely not to have been contacted in the course of NRFU. We report estimates of total household undercount based on completed interviews as well as "best estimates" incorporating these imputations of the most likely enumeration outcome for the unresolved cases.

Housing Unit Grid—Demographic Profiles and Identification of Immigrants and Length of Time in the U.S.

Summary demographic data includes gender, age, birth state, educational attainment, birth state, time in US (for foreign-born individuals), and type of work/occupation. Interviewers also observed and recorded the type of dwelling as part of the household grid. Information on birth state permitted coding of US-born and foreign-born heads of household based on the birthplace of P1 (the survey respondent). For respondents and persons listed in the household grid, interviewers asked about length of time in the US (in broad ranges: <2 years, 2-5 years, 6-10 years, >10 years) or if a US state was mentioned as birthplace they were coded as being born in the U.S.

Identification of Farmworker Households

Interviewers asked what sort of work/occupation individuals in the household were involved in and these responses were coded as agriculture, non-agricultural work, retired/disabled, homemaker, or student. Farmworker households were those where at least one individual worked in agriculture (which, for the purposes of this study, we considered to include processing/packing work).

Household Language

Interviewers noted the language they had used in conducting the interview. In cases where the interview was in Spanish, the respondent was also asked how well they and others in their household knew English and responses were coded to distinguish: interviewer speaks English fairly well, very well, or perfectly; some other person in the household speaks English; or no one (except a child) speaks English. Respondents were also asked if they or someone else living there spoke any language other than English or Spanish.