USDA-Rural Development Strategy to Manage the Drought Related Crisis in California's San Joaquin Valley - 2014

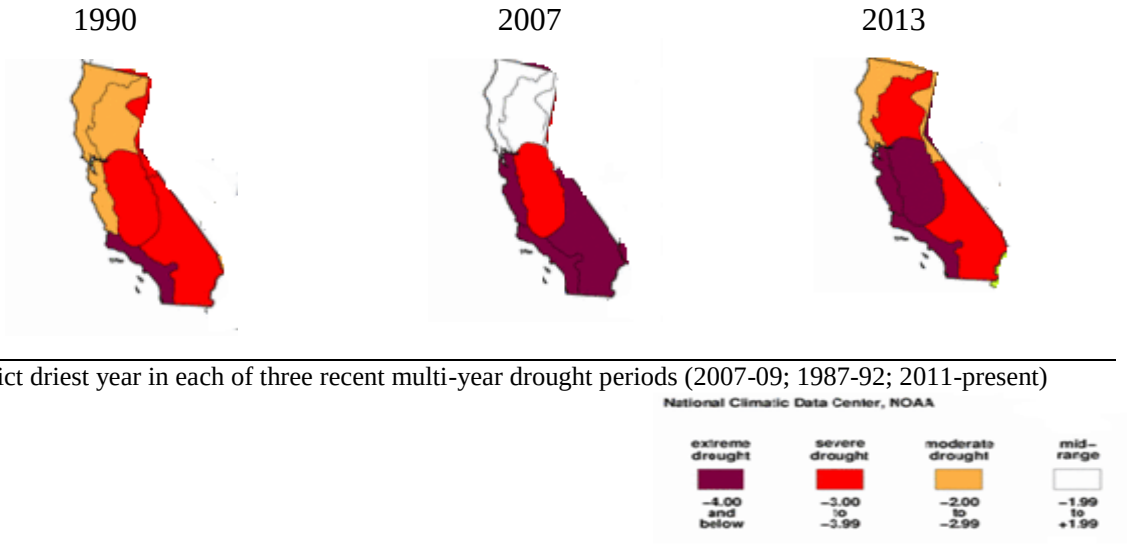
Background

The water years 2012 and 2013 were dry across the state of California, with many areas of the state registering the driest years of record (Figure 1). 2014 continues this trend statewide; the California Department of Water Resources (DWR) currently estimates that it will be able to deliver only 5 percent of the water requested for the calendar year—tied with 2010 for the lowest allocation ever.[1]

While 39 of California's 58 counties are currently under USDA Secretarial Drought Designation, the number is increasing as the drought persists. The anticipated water allocation is of particular concern in the San Joaquin Valley (SJV). The SJV, which encompasses the southern portion of the California's vast Central Valley (a region larger than 9 states), is one of the highest grossing agricultural regions in the world.[2] Six of the nation's top ten agricultural producing counties are in the region with Fresno, Tulare and Kern topping the list. This output is calculated at over $30 billion in farm gate sales and $106 billion in overall economic impact when factoring in direct, indirect and induced economic benefits.

Ironically, a number of communities within the SJV, many of which are dependent on employment in the agricultural sector are also among the most food insecure in California and the US, with 33% to 41% of low income residents classified as food insecure.[3] Historic and continuing high levels of unemployment and poverty within SJV communities suggest increased vulnerability should the drought persist.

Figure 1. Palmer Modified Drought Index – Recent California Droughts*



*Maps depict driest year in each of three recent multi-year drought periods (2007-09; 1987-92; 2011-present)

[1] California Department of Water Resources, 2014
[2] California Department of Water Resources, 2014
[3] Center for Health Policy and Research, 2012

Drought Impacts

The impacts of drought on a particular region or sector (e.g. economic or environmental) can be difficult to differentiate from non-drought related changes. For example, agricultural production is affected by the overall global economy, crop-variety planting decisions, farm subsidy, insurance, and incentive programs and policies, and anthropogenic factors influencing ecosystems such as population change, environmental protection policies, etc. The agricultural sector responds to drought in a number of ways, such as shifting to groundwater usage, changing crops or irrigation practices, fallowing land, or transferring water between districts and regions. Responses vary based on location, drought severity, and other factors. Assessments of recent California droughts provide valuable information regarding the effects of reduced water availability in SJV communities.

Although drought conditions in the SJV are currently worse than those experienced in 2007-2009, data and lessons learned from the earlier period are instructive. During this period, the SJV experienced the most severe reduction in water delivered through state and federal projects—an estimated 10% of its contractual allocation. Reservoir storage and groundwater levels are lower are currently lower than during 2007-2009, further reducing the "cushion" for irrigation-dependent farms. It can be anticipated, therefore, that, all other factors being equal, the hardships resulting from the 5% allocation anticipated by DWR for water year 2014 will be (at minimum) similar to those experienced in the recent drought. Impacts include:

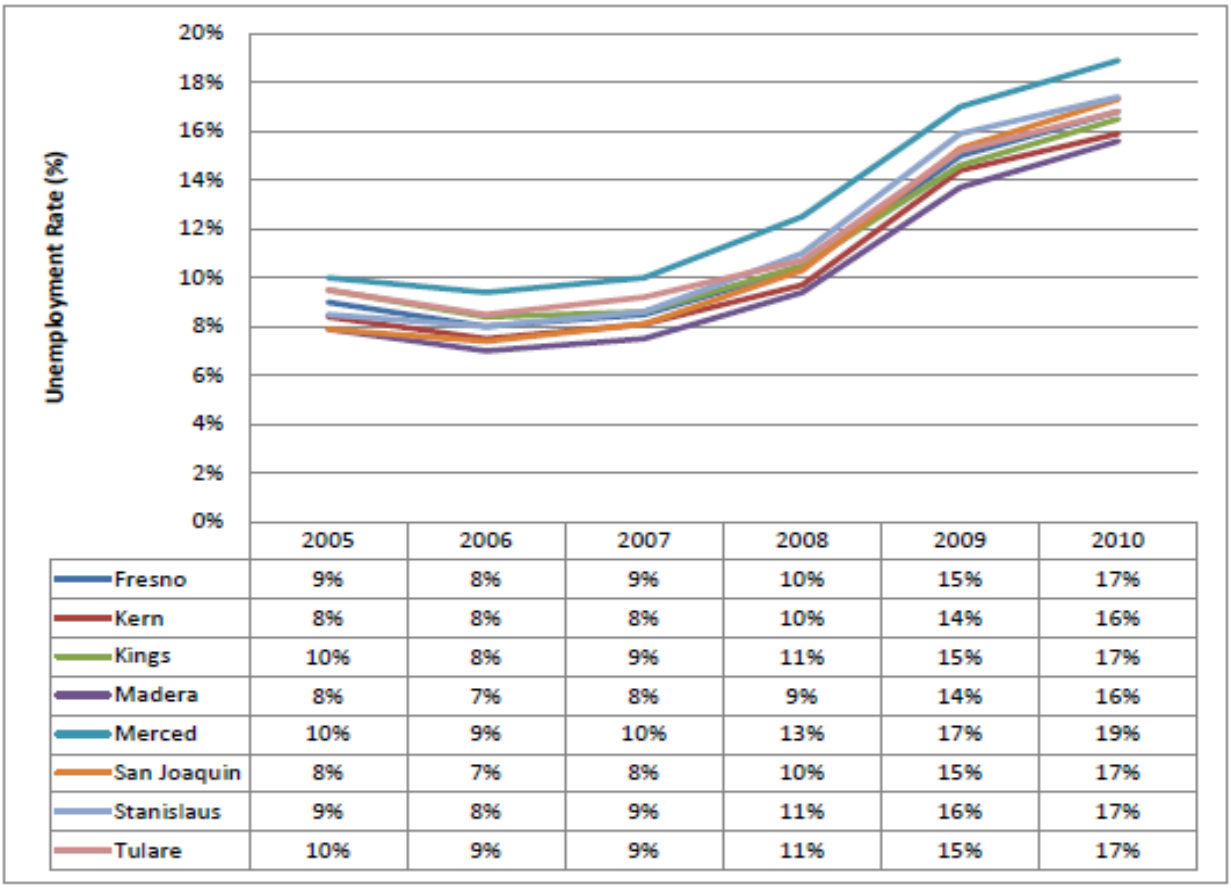
1. Job loss and unemployment.
   The impacts of water reductions using an IMPLAN model leads to estimates of significant total job losses of more than 21,000 jobs in the San Joaquin Valley region during the 2007-2009 drought period.[4] Bureau of Labor statistics (2102) show all eight counties in the SJV posting unemployment rates that were above the U.S. rate of 7.6 percent. Improvements in production and technology have resulted in a decrease in overall agricultural sector employment in recent year, however, and it is anticipated that drought-related job losses will increase. From a historical perspective, the SJV has had much higher levels of unemployment than the state or nation over the past 20 years (see Figure 2).

[4] Howitt, R.E., Medellin-Azuara, J. , MacEwan, D.J. (2009). Measuring the Employment Impacts of Water Reductions. Technical Note, Department of Agricultural and Resource Economics and Center for Watershed Sciences. University of California, Davis, California. 6 pp. Available at http://swap.ucdavis.edu

It is important to note that the unemployment rates compiled are for non-farm payrolls. Nonfarm payroll employment is includes only goods, construction and manufacturing companies in the US. It does not include farm workers, private household employees, or non-profit organizations. The National Agricultural Workers Survey (NAWS) estimates that some 700,000 people— nearly 40% of the total farmworkers in the nation—work in the SJV and other areas of California each year.

Given these figures, it is reasonable to project that the overall unemployment rate could reach 30-40% in communities dependent on agricultural production, leading to a dramatic increase in demand for assistance from social service agencies. Drought-related unemployment led Fresno to declare a state of emergency in 2009.

Figure 2. Annual Unemployment Rates by San Joaquin Valley County 2005-2010



	2005	2006	2007	2008	2009	2010
Fresno	9%	8%	9%	10%	15%	17%
Kern	8%	8%	8%	10%	14%	16%
Kings	10%	8%	9%	11%	15%	17%
Madera	8%	7%	8%	9%	14%	16%
Merced	10%	9%	10%	13%	17%	19%
San Joaquin	8%	7%	8%	10%	15%	17%
Stanislaus	9%	8%	9%	11%	16%	17%
Tulare	10%	9%	9%	11%	15%	17%

Source: California Employment Development Department, 2011

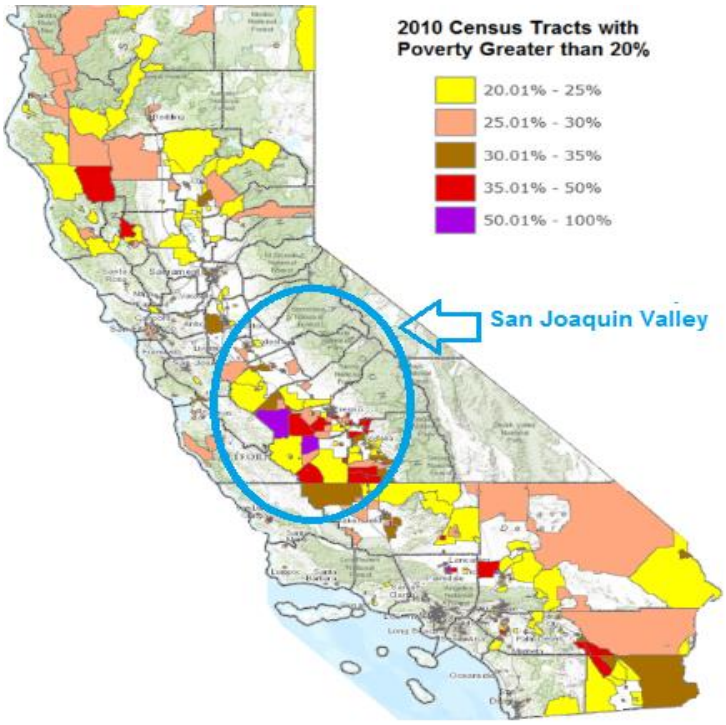
2. <u>Fallowed agricultural land and increased ground water depletion.</u>
Some 100,000 acres were fallowed in the Westlands Water district on the west side of SJV during the 2007-2009 period, with 170,000 acres unplanted in other areas. NASA data report the San Joaquin Basin is losing 3.5 cubic kilometers a year of groundwater as a result of ongoing drought conditions. Calling the situation "unsustainable", the report notes that the depletion is primarily due to irrigating crops.

Many in the SJV agricultural community employed complex coping strategies to buffer themselves from drought impacts, including shifting away from water-intensive and/or lower value crops and participating in short-term water transfers. However, due to currently low reservoir levels and overdrafted groundwater basins, these strategies are not likely to be available in 2014.

Several of the SJV water districts have announced that the fallowed acreage in 2014 will eclipse the numbers seen in 2013, or in other recent drought periods. Westlands Water District plans on fallowing 200, 000 acres in 2014, as compared to 100,000 in 2013. Other districts plan for more than half of their acreage to be fallowed; 82,000 acres of 150,000 in the southern reaches of SJV. Water districts estimate that 1 job is lost for every 80 acres fallowed. Direct job losses, then, are likely to exceed 3,250.

3. <u>Increase in the numbers of people living in poverty.</u>

Recent census data demonstrates that the number of people living in poverty in the SJV is among the highest in California. A 2012 survey conducted by the California Food Policy Advocates notes 626,016 living in poverty within the five most populous counties in SJV, an increase of more than 3% since 2010 (Table 1).



Source: American Community Survey, CA Food Policy Advocates, 2012

Table 1. People in Poverty- SJV 2007 v. 2010 (Five leading counties)

County	2007	2012	Change	Percent Change	
Fresno	233,654	264,378	30,724	13%	
Kern	189,037	198,625	9,588	5%	
Kings	30,371	27,819	-2,552	-8%	
Tulare	133,482	135,194	1,712	1%	
Total	586,544	626,016	39,472	3%	(average)

4. <u>Increase in USDA drought related crop insurance payments.</u>
As Table 2 demonstrates, drought-related crop insurance payments increased during the 2007-2009 period. Farmers and ranchers in the San Joaquin Valley counties took out the highest number of drought policies, and received the most in total payment for drought losses between 2007 and 2009. Payments increased further in 2013. The number of policies written in 2014 is not yet available.

Table 2. USDA drought-related crop insurance payments, 2005-2009.

Region	County	Crop Insurance Payments					2007-2009		
		2005	2006	2007	2008	2009	Payments	Policies	Avg. Per Policy
San Joaquin Valley	Fresno	$0	$40,586	$581,274	$2,510,845	$6,910,363	$10,002,483	217	$115,837
	Kern	$0	$49,540	$135,959	$126,550	$295,752	$558,260	54	$35,298
	Kings	$0	$0	$361,821	$175,757	$424,948	$962,525	94	$34,780
	Madera	$0	$0	$229	$66,411	$9,715	$76,355	6	$26,547
	Merced	$0	$0	$0	$157,148	$397,122	$554,270	36	$29,387
	San Joaquin	$0	$0	$311,696	$359,799	$572,782	$1,244,277	51	$72,515
	Stanislaus	$0	$0	$10,154	$4,162	$31,286	$45,601	8	$19,530
	Tulare	$6,275	$7,874	$318,078	$445,319	$602,404	$1,365,801	132	$30,696
	TOTAL	**$6,275**	**$98,000**	**$1,719,211**	**$3,845,991**	**$9,244,370**	**$14,809,572**	**598**	**$364,589**

Source: USDA Risk Management Agency. Cause of Loss Historical Data Files: Summary of Business with Month of Loss 2005-2009.

5. Increase in the numbers of people requesting assistance with food and social services. This research is motivated, in part, by a request from the Community Food Bank serving Fresno, Kings, and Madera counties in the SJV. Community Food Bank president Andrew Souza requested assistance to improve capacity, delivery, and food availability, as he anticipates that, like in previous drought periods, there will be a significant increase in demand for food and nutrition programs such as the CalFresh Program, (federally known as the Supplemental Nutrition Assistance Program (SNAP)), or the California Food Assistance Program (CFAP). It is expected that eligible ranks for The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which provides Federal grants to States for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk, will also increase.

The California Association of Food Banks estimates that an additional 50,000 people in SJV communities were provided with food assistance each month during 2009, the final year of the most recent multi-year drought. (See Table 3 below).

Table 3. Drought-related Disaster Victims Served/Month	
SJV Counties, April, 2009	
Fresno	17,090
Kern	11,747
Kings	2130
Merced	9,400 (est.)
Tulare	10,698
Total	51,065

Source: California Association of Food Banks, 2013

A post-disaster report points to a number of lessons learned during this period, including:

- Relief in periods of drought disaster differs from standard service delivery, in that typical food bank distributions are meant to be supplemental, whereas disaster distributions fill complete food needs, which requires greater quantities of food
- Food bank infrastructure and operations can be severely taxed during periods of disaster. The ability to scale and utilize alternate resources is imperative.
- Extreme summer heat in the SJV requires the utilization of temperature-controlled buildings and storage to protect human health and ensure food safety.
- The Emergency Food Assistance Program (TEFAP), which provides USDA commodities to a network of food banks for distribution to eligible individuals and households within their service area, must consider local dietary and cultural preferences.
- State and Federal requests for documentation, information, and data are best satisfied when required documentation and statistical information is noted in advance.
- Drought disasters extend over a period of many months, as people employed in agriculture-dependent industries may not experience relief until the next year's harvest.

California USDA-RD Strategy to Manage the 2104 Drought Crisis

In order to best serve the California's rural communities, as well as to demonstrate USDA's ability to provide a timely response to the anticipated drought-related crisis in the SJV and other areas of the state, California USDA Rural Development proposes to take the following actions:

1. Work with state, county, and local agencies and organizations to ensure sufficient quantity, transportation, storage, and distribution of food. Participate on the Governor's interagency Drought Task Force.
2. Identify USDA-funded Community Facilities that can be used to augment existing emergency food distribution and storage facilities.
3. Utilize Community Facilities Programs to provide loans, grants, and loan guarantees for essential community facilities in rural area as possible.
4. Prioritize review of requests related to funding, technical assistance, etc. for businesses and individuals affected by the drought, or those that propose to take actions to ameliorate the effects of the drought through job creation or provision of healthy foods, as applicable.
5. Conduct brief impact and vulnerability assessments of the SJV and other drought-affected areas to identify potential risks and possible mitigation strategies most suited to local circumstances.

These actions will also serve as the basis for a climate change response action plan.

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