



**WEST HILLS**  
COMMUNITY COLLEGE DISTRICT

## **West Hills Community College District**

*2014 Public and Private Policy Series*  
**Essential Elements**  
*For the Future of the San Joaquin Valley*

**The Very Last Drop:**  
**Managing Water & Food Production**  
*First in a three-part series on water, food and energy*

*Summary Report*

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## 1. Background

While it is impossible in a few words to describe much less explain what is going on in California with regard to planning for and uses of surface and ground water, some background is required to set the scene for this summary report outlining results of the West Hills Community College District (WHCCD) Conference, **The Very Last Drop: Managing Water & Food Production.**

As with many things in California, the management and ultimate disposition of the state's fresh water has consequences well beyond the state's borders. During the daylong Conference with its emphasis on agriculture, it became apparent that future decisions made about California's water directly influence the national and global price and availability of hundreds of food products. The consequences of the current protracted drought and multilayered policy, jurisdictional and political decision-making affecting water make it imperative that the situation faced by California's Central Valley, one of the world's most productive agricultural regions, be understood and fully appreciated by local, state and national leaders.

Although the Conference was tilted toward the lower Central Valley, speakers and distributed materials made clear that decisions about the future of water needed to be respectful of stakeholder interests regardless of location. The Fresno Bee article "Farms threatened, basic water principles violated," by Al Medvitz (see Attachment D) lays out the case from the perspective of those who farm in the Sacramento-San Joaquin Delta and who claim pre-1914 riparian rights.

Climate scientists and most recently a summary publication by the United Nations make a strong case that climate patterns are undergoing changes that will have profound consequences for the world in which we live. Whether or not weather patterns and water challenges facing California are related to climate change is a subject for others to debate. What is of interest in the summary publication is how California and the Central Valley are planning for and adjusting to a future in which fresh water will be at a premium. The current situation brings into focus questions relating to the nature of long-term sustainability. What will it look like? What are its consequences? And during periods of water scarcity, who gets how much? Why?

Conference speakers, one after another, made clear the complexity of the water problem(s) facing California. Those closest to the policy debates indicated that, to the extent possible, all stakeholders need to be "at the table" which tends to introduce yet one more level of complexity. Some speakers suggested that with hard work reasonable people could arrive at "best case" solutions, others less confident of this possibility seemed to suggest that we "need to buckle our seat belts" and prepare for what, in the end, will be a political "slug fest."

What is of interest in this summary report is how areas of California and especially the Central Valley are planning for and adjusting to a future in which fresh water will be at a premium. The local, regional and statewide efforts to successfully transition and thrive in the face of a new set of environmental circumstances present a laboratory from which the world can benefit.

Based on the contributions of speakers and solicited input from participants, the best case for the future of the Central Valley will require:

- Creative thinking from the public policy sector,
- Putting a “face” on the Valley and individual lives affected by the drought,
- Accessing and employing the most effective tools from science, engineering and technology to responsibly squeeze more out of less water,
- Building coalitions to ensure adequate resources and investment in the Central Valley during what is likely to be a dramatic transition period and
- Focusing locally on training and retaining that will help boost opportunities for employment and contribute to an improved quality of life as the region continues its transformation to a progressively more sustainable future.

The contributing role of education to all of these areas will be of paramount importance during what is expected to be a period of accelerated change. The WHCCD in concert with other influential organizations must provide leadership in preparing the people of the Central Valley to take advantage of emerging opportunities in order to successfully prevail during what, for many individuals, will be a personally challenging period of adjustment.

**California—Sources of Water.** California’s extensive water system supplies water to some 30 million people and irrigates nearly 5.7 million acres of farmland. While total estimates vary, the system manages in excess of 40 million acre-feet of water per year. The priorities for the assignment and distribution of water include public health and safety, drinking water and agriculture. Public policy and legal debates, more sharply defined during periods of limited rain and snowfall, deal with the allocation of water between urban and large agricultural regions while at the same time working to preserve natural ecosystems.

The sources of water consist of **surface water** from streams, rivers, and lakes, **groundwater** that is pumped from aquifers in the ground, and a small amount gained through desalination. California has laws governing surface water usage. Quality ground water use is determined by water rights that vary by location but are mostly tied to land ownership. During a period of intense drought ground water may account for as much as 60 percent or more of the water consumed.

**Current Situation—Critical.** Nine million acres of land are under agricultural production in California, and three million of these are in the Central Valley where

there is an abundance of land and an ideal climate for agriculture. Despite improvements in irrigation techniques to conserve water and the intentional shift to low-water crops, water shortages continue to be crippling to regional agriculture. How can limited water resources be optimized through innovative methods supported by new technologies?

Legal, philosophical and regulatory issues, unsustainable crop decision, current irrigation practices and the over draft of ground water, compounded by severe drought, have stressed the water supply and resulted in many acres of farmland being taken out of production. Some suggest that at least 800,000 acres of land could be fallowed this year—roughly 10 percent of the total. The consequences are far-reaching including a projected loss to the California farm economy, including related businesses, of \$7.5 billion and a direct loss of jobs for some 20,000 farm workers.

More must be done to ensure sustainable water use and agricultural practices for the future of the agri-business economy in the Central Valley.

**WHCCD as Neutral Convener.** The sometimes fierce California water debate engages organizations of all stripes, public and private, state and federal, research and advocacy; some with broad-based concerns, others with narrowly-defined interests driven by constituent or statutory imperatives. The West Hills Community College District, by virtue of its mission, vision and demonstrated history of service to a major portion of the Central Valley has a reputation as a neutral, but effective convener. The District has an established track record in bringing together disparate groups to address important issues including farming for the future, career and vocational training for the West Side and coordination of higher education efforts through a consortium of some 28 colleges and universities in the Valley.

As spelled out in the West Hills Community College District **Mission**, the District exists **“to enhance student learning and enrich the lives of the populations we serve.”** Further, the District **Vision** commits WHCCD to be a **“trusted steward, one that actively engages, encourages, enriches and empowers students, faculty, staff and the communities served to reach their full potential academically, socially and economically.”** With this Conference WHCCD is leveraging its position as a trusted regional steward to bring together individuals and organization representing a variety of positions and roles relating to water. The goal is to seek ways to work effectively across a host of jurisdictional and philosophical boundaries to promote enhanced future prospects for the Central Valley and its people.

Dr. Frank Gornick, Chancellor of WHCC made it clear in his welcoming remarks that the day spent at **The Very Last Drop** Conference was to be a work day, with audience members and speakers expected to interact to shape a master agenda that could be aggressively supported by a majority of those present. Dr. Gornick's charge to all those in attendance—audience and panelists—was to think through and digest a vast amount of water related information and, at the end of the day, arrive at a short list of next steps considered achievable at tolerable cost measured in staff time, new dollars required and likely expenditure of “small p” political capital.

To measure consensus and establish “next step” priorities, each panel presentation was followed by a brief discussion of action steps synthesized from the panel discussions by the Eaton Cummings Group facilitators. Participants were invited to suggest additional action steps. Using electronic clickers, participants voted for the action steps they believed would be the most effective in making a positive impact on the water-agriculture equation in the San Joaquin Valley.

**The Gornick Challenge.** As a **worthy objective** for **The Very Last Drop** Conference, Chancellor Gornick envisioned a document plucked from the future that had its origins with this Conference. He called it the “**Coalinga Accord.**” As Dr. Gornick envisioned the “**Coalinga Accord**” it would encapsulate a “grand compromise” including:

- A new groundwater regulatory program to support precision irrigation needs;
- Waste discharge requirements for irrigation lands;
- Agreements covering special fish species and their habitat;
- Plans to support research and advanced engineering to improve waste water treatment, develop new sources of water trough technology, implement enhanced conservation strategies and develop a range of new tactics to restore aquifers and reclaim damaged farm lands, and
- Ensure new state funding to complete the water infrastructure that California needs to fulfill a balanced obligation to all water stakeholders throughout the state.

Participants endorsed the spirit of the “**Coalinga Accord**” and offered suggested steps involving collective action that might help turn the “fiction” represented by the “**Coalinga Accord**” into reality within the next 3 to 5 years. Having set expectations for a “Coalinga Accord” in motion, Chancellor Gornick and the WHCCD were singled out as key players in moving the “accord” from “fiction to reality.”

## 2. The Very Last Drop Conference—Panel Summaries

(See Attachment A for Listing of Panelists and Moderators for all Conference sessions)

### 2.1 Applied Water Innovation

Moderator DeeDee D’Adamo of the California Water Resources Control Board posited these questions:

- What are the latest innovations in water capture, use and re-use?
- What barriers exist to using new technologies?
- Are we ready to integrate water systems?

**Accelerate affordable new technologies.** Technology is advancing quickly with regard to sensors that regulate water flow and water quality and the application of nutrients. Public-private partnerships in collaboration with innovation hubs like Silicon Valley must work together to emphasize the importance of the design and production of affordable new technologies in order to bring these innovations to market and promote their widespread use. The de-salinization and reverse osmosis processes, fraught with political and cultural implications, must be resolved.

**Educate to improve the basics of daily practice.** Modest and uniform improvements in small, technical fixes—the basics of daily practice—have the potential to yield significant improvements in water optimization. Education must be more widespread and consistent with regard to weed management, water transportation, silt management, hose-end flushing, etc. More training time focused on single topics along with hands-on practice is recommended, along with the granting of related credentials that are recognized and valued by the industry.

**Improve research for effective practice.** There is a need for improved research to support the re-balancing of several factors that impinge on the agriculture equation: fish and wildlife, urban and rural water supply/distribution, desalinization, water systems design and integration, floodwater capture, recycle/recharge techniques and connecting surface and groundwater. Uniform and prioritized data collection, interpretation and dissemination are important steps that can bring focused attention to the issues and possible solution sets for the greatest impact with the least amount of effort.

It is important to take time to think first, moving slowly initially to “go fast” once a course of action is agreed upon. Clearly, there is no single solution that will change the existing equation or satisfy all competing interests. New alliances must be formed with education, regulatory, environmental, agricultural and water groups in order to make the overall water systems more resilient.

Sustainable agricultural techniques are constantly evolving. The analogy suggested was one of keeping the patient alive while focusing on ever-better long-term solutions.

## 2.2. Agriculture Technology Job Creation—From the Future to the Valley

The San Joaquin Valley has the potential to become a laboratory for the world by creating solutions to the water crisis that could be replicated for global impact. The Valley has an opportunity to solve complex local “here and now” problems that require adaptive solutions. Complex problems are characterized by:

- Lack of certainty and agreement on **what** needs to be done and **how** it needs to be done.
- Challenging to frame the issue, define the problem.
- Lots of interconnected causes requiring interconnected responses.
- Many stakeholders need to be involved in addressing issues.
- A dynamic and adaptive environment.

Thriving regions focus on the triple bottom line: people (social), planet (environment) and profit (economic). The San Joaquin Valley has an opportunity to identify and apply adaptive, sustainable solutions that address the triple bottom line at the local level that could then be scaled up in broader contexts. The Valley also can look to other world regions with similar water-related challenges and learn from them.

Local discretion to solve problems affords greater opportunity for participation and engagement. Local and regional politics are different from state politics. Some suggest there is a lack of statewide understanding of regional economies, particularly rural economies. The population base and political dominance of California’s metropolitan areas offer a very different perspective on issues related to water use and allocation than those found in rural regions.

Among the issues that could be addressed to enhance agri-business in the Valley and contribute positively to the triple bottom line are:

- **Deploy big data.** While it is understood that there are sensitivities about sharing proprietary data, there is a need for “open” big data resources that can inform improved agricultural water practices. There is a role for education in developing intellectual capital for the collection, analysis, interpretation and application of cropland data. There is also a role for “risk research” that would inform investment strategies for farmers, ranchers and outside investors.

- **Increase bandwidth.** There is currently a lack of bandwidth capacity in the Valley. In order to conduct research, create “real time” dissemination of results and apply technology-related solutions, this basic lack of infrastructure must be remedied.
- **Scale up local/regional political influence.** The plight of the Central Valley has made national and international headlines, yet local and regional political voices are not widely heard beyond the Valley. Coalitions of willing partners who can help amplify local perspectives and “put a face on” Central Valley issues are vital to future problem-solving.
- **Expand bio-based manufacturing in the Central Valley.** This is an emerging field with great opportunity to create bio-based products from crops grown in the Valley into goods that consumers buy every day—from soaps and insulation to plastics and fabrics.
- **Put new technological breakthroughs into the hands of students.** In order to provide intellectual capital and prepare the workforce to serve an evolving agribusiness economy in the San Joaquin Valley, a pipeline of innovation from research and development to teaching and learning must be created and nurtured.

### 2.3. Immediate Actions and Alliances to Create San Joaquin Valley Water Jobs

A new era of water sustainability must emerge for the San Joaquin Valley. It will require “capital” on multiple fronts—social, intellectual, political and financial. While systems thinking must be engaged, every decision to be made about the future centers on people. Decisions made in Sacramento or in Washington, D.C. for a population that most politicians and bureaucrats will never meet run the risk of being overly influenced by special interests.

It is important to amplify the voices of the Valley, articulate and communicate shared values and build new alliances in order to meet one another as people—not as sectors or silos. Learning one other’s stories is preparation for the work and the decisions that lie ahead. We need to think, learn and be together and understand that we’re not changing “it”—we’re changing “us.”

Some suggest that nothing short of a clean sweep is necessary in order to create sustainable water systems from the ground up. Because perfect can be the enemy of the good, others advise that decisions about the most effective and sustainable approaches must be informed and tempered by:

- Farmers and ranchers who have intimate experiential knowledge of their land,
- New science and research findings,
- Data linked to practical applications and longitudinal results,
- Education about the implications of new methods and proposed solutions, and
- Shared core values of the people and regions that will be affected.

**Amplify shared core values.** The key to sustainable, systemic change is a strong “root structure” of common core values. Creating a focus on shared core values promotes new alliances and strengthens existing coalitions.

**Adopt a process of learning and change.** Lasting change does not occur unless people are willing to change. Crisis and creative destruction precedes renewal. The unraveling of old patterns and structures releases energy that must be productively channeled toward positive change. Anticipate and have systems in place to counteract the internal and external barriers likely to impede change.

**Collaborate.** Work together and form new alliances to pool knowledge, experience and make the best decisions with the information available today. Predicting the future is impossible. At best it is a collective, informed bet that aligns with a common agenda.

**Make San Joaquin Valley issues “go to” instead of “drive by.”** It is important to connect the people affected by drought with the people who make policy and regulatory decisions that impact them. Every effort should be made to “put a face on” the Valley through storytelling, common language and consistent messaging.

### 3. Next Steps

In the words of James Collins, author of several books including *Good to Great* and *Good to Great for the Non-profit Sector*, the “Big Hairy Audacious Goal” facing California is finding a sustainable solution to the state’s water woes that is amenable to environmentalists, farmers, ranchers, families, and state and federal agencies. To move toward achieving this goal, Conference participants identified a number of priority action steps.

*Items in bold italics contain the language of the priority action steps as voted at the Conference.*

- 3.1. Amplify shared core values to create and strengthen alliances.***
- 3.2. Assess the impact of decisions on people in economically distressed areas.***
- 3.3. Insist on improved research and support to rebalance the environmental (fish)-ag equation.***
- 3.4. Conduct an economic development analysis with or without the expansion of surface water.***
- 3.5. Think globally to solve technical problems—a laboratory for the world.***
- 3.6. Use technology to increase water supply, resiliency and reliability.***
- 3.7. Expand bio-based products manufacturing in the San Joaquin Valley.***
- 3.8. Bring focus to San Joaquin Valley issues—“go to” instead of “drive by.”***
- 3.9. Improve public perception and focus public relations efforts on the value of agriculture as a career***
- 3.10. Ensure WHCCD’s capacity as the “Backbone Organization” leading in translating new ag-related technologies into job training with career potential***

#### **4. Central Valley—Developing the Case for Support.**

In order to coalesce/concentrate support for the Central Valley and its people the Valley must make clear its critical role and future prospects in the world economy now and throughout the next decade. A collective effort must be made to construct a compelling story that outlines the agricultural and human value represented by the Central Valley. The Valley and its vigorous agricultural communities are capable of adapting to worldwide markets and to the water resources available likely to be available in the next decade.

The WHCCD will be alert to the new skills, new technologies and new markets that will influence the future of the Valley. Those living and working in the Valley are more than willing and capable of learning new skills in order to compete successfully in a rapidly changing physical, social and economic environment. Leadership informed by empirically based science, guided by heroic and collective vision and supported by education is critical to the Valley’s future. With support and encouragement, the WHCCD is in the best position to gather the intellectual capital to lead the way.

## 5. WHCCD as Backbone Organization\*

Having set the stage for action, continued leadership will be required. If WHCCD is to emerge as a principal “backbone organization” for this effort the District must be prepared to:

- Focus people’s attention through continuous communication community awareness efforts,
- Reiterate the sense of urgency,
- Apply pressure to key stakeholders without overwhelming them, and
- Frame issues in a way that presents opportunities, particularly those relating to training, retraining, and ongoing professional development that emphasize the latest, most effective approaches to sustainable agriculture and beneficial advances in related technical fields.

Coordinating the many “moving parts” will require time and dedicated effort. The reality is that most partner organizations and supportive individuals have little or no time to contribute to managing the success of the collective effort. Verbal, philosophical endorsements are easy, while commitments leading to heroic efforts dedicated to ultimate success are harder to come by. Kania and Kramer suggest that in order to be effective in delivering “collective impact” a Backbone Organization must create and manage a separate or dedicated structure designed to deliver collective impact.

\*Backbone Organization (See Kania and Kramer, Collective Impact, Stanford SOCIAL INNOVATION Review, Winter 2011)

## ATTACHMENTS

Attachment A—*The Very Last Drop: Managing Water & Food Production Program*

Attachment B—List of Session Attendees

Attachment C—WHCCD Educational Opportunities: Current and proposed programs, certificates, professional development and community education related to the future of water and agriculture.

Attachment D—Fresno Bee article “Farms threatened, basic water principles violated” by Al Medvitz