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Cline, Kurt

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Targeting Agriculture: Air Quality Policy in California's San Joaquin Valley

Kurt Cline
California State University, Fresno

Introduction

The air quality in California's San Joaquin Valley has been a cause of concern for many years. In 2003 there was an increasing sense of urgency to do something about it. One reason is that by many measures it is some of the worst air in the country. In 2003, the counties contained in the San Joaquin Valley Air Pollution Control District¹ (SVVAPCD) had the most unhealthy air days as measured by the federal eight-hour smog standard (Grossi 2003d). The short-term one-hour smog measure put the San Joaquin Valley in the second to worst category (Grossi 2003c). The San Joaquin Valley is also "considered one of the worst places in the country for tiny particulate pollution" (Grossi 2003e).

In addition to the air quality, California's longstanding exemption of agriculture from the Clean Air Act's (CAA) permitting requirements was under serious threat. On May 15, 2002, the Environmental Protection Agency (EPA) settled a lawsuit with EarthJustice and other litigants that effectively ended the 63-year exemption. In order to ensure legislative action, the settlement stated, "If the state fails to revise its agricultural exemptions, increased pollution offset requirements will take effect on November 15, 2003, and California will lose its federal highway funding on May 15, 2004" (Lazaroff 2002).

California's answer was SB 700, which was proposed by State Senator Dean Florez (D – Shafter) on February 21, 2003 and signed into law in September 22 of the same year. The legislation ended the state's agricultural exemption to national air permits on January 1, 2004, and sought to reduce emissions from agricultural sources by creating a regulatory system of permits and stringent cleanup standards. These same agricultural sources would now have to apply for permits to cover both operations and the construction activities.

SB 700 is an interesting combination of major policy change and status quo politics. On the one hand, it ended the agriculture industry's exemption to air permits, imposed a permitting system for agricultural operations, and required stringent mitigation standards. On the other hand, agricultural stakeholders gained important concessions. Forty-nine amendments were attached to SB 700 that allowed agricultural interests ample consideration in shaping administrative rules and who/what would be covered under the permit system (California, Assembly Republican Bill

¹ San Joaquin Valley Air Pollution Control District is made up of the following eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.

Analysis 2003). They also received financial incentives for compliance and access to information on how to comply with the law.

This examines the narratives surrounding SB 700 and their impact on its design. This leads to three main research questions: (1) What are the important narratives making up the SB 700 policy discourse? (2) What are the implications of these narratives for the design of SB 700? (3) What are the implications of these narratives for policy theory and practitioners?

In order to properly address the research questions, the paper is organized in the following manner. There is a brief description of the main elements of SB 700. This is followed by the data and methodology used for the analysis of SB 700 and a presentation of the theoretical framework for the paper. The Narrative Policy Framework or NPF forms the primary theory guiding the analysis (Jones and McBeth 2010). It also consists of a combination of Schneider and Ingram's (1997) theory of policy design and Hajer's (1995) discussion of story lines. After this comes a narrative analysis on the policy discourse surrounding SB 700. The analysis shows how various elements of policy design are linked to different policy narratives. The concluding section of the paper examines the important implications of the findings and discusses potential extensions of the research.

SB 700

On introducing his bill, Florez said its purpose was to end the agricultural exemption to national air permits and reduce emissions of air contaminants from agricultural sources. While the design of SB 700 addresses these goals, the final version of the bill was not as stringent as originally written (Fitzenberger 2003a; Grossi 2003c). The bill encountered strong opposition in the Assembly's Appropriations Committee (Fitzenberger and Bier 2003). Agricultural interests successfully argued that the regulations would be too tight and costly in terms of production and jobs (Fitzenberger and Bier 2003), and SB 700 failed to pass the committee.

The impasse necessitated negotiations between Senator Florez, Appropriations Committee members, environmental advocates, and agricultural industry representatives that produced important changes to the bill. The changes (1) clarified the circumstances under which air districts would track pollution precursors such as ammonia, (2) required consideration of costs for agriculture engine technology and the air districts when dealing with control measures, and (3) extended the permit deadline for confined animal facilities, such as dairies, to allow completion of scientific studies (Fitzenberger and Bier 2003). All told, the bill was amended 49 times before passing the Senate and Assembly (California, Assembly Republican Bill Analysis 2003). The amended version passed the Assembly 49 to 30 and the Senate by 24 to 14. The governor signed it on September 22, 2003.

With the end of the exemption to national air permits, agricultural sources had to comply with both Title I (new major sources or major modifications) and Title V (existing major stationary sources) of the Clean Air Act. The legislation provided the basic outline of this regulatory regime by defining what constitutes agricultural sources, as well as the level of allowable pollution. SB 700 established four main categories of agricultural sources: (1) confined animal facilities (CAFs); (2) internal combustion engines; (3) major stationary sources; and (4) sources otherwise not subject to district regulation. Agricultural sources emitting 50% of the major source threshold for a given pollutant would be required to obtain a permit from its local air district.²

² SB 700 (2003) covered the following types of air pollutants: nitrogen oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). What constitutes a major source

It now became the task of state and local air district officials to develop rules and detailed definitions of agricultural sources that would ensure compliance under the new regulatory framework. The California Air Resources Board (CARB) was charged with defining what constitutes a “large” CAF for purposes of meeting the general permitting threshold. This required them to examine all available and relevant scientific information and “consider the emissions from CAFs and how those emissions affect attainment and maintenance of ambient air quality standards in air basins” (CAPCOA 2004).

It is then the responsibility of the local air districts to adopt rules that require any CAFs meeting the state board’s definition of large to obtain permits from the district (CAPCOA 2004). This process does not establish a single rule governing mitigation measures for facilities falling under the “large” designation. Instead, it creates a case-by-case approach in which those applying for permits provide an inventory of emissions and a mitigation plan for reducing emissions to the extent feasible (CAPCOA 2004).

This varies across air districts. For example, since the SJVAPCD is designated as “severe” nonattainment for ozone, the mitigation standard would be BACM. Air districts are to “make a good faith effort to minimize the adverse impacts of these rulemaking procedures” in terms of both feasibility and cost (CAPCOA 2004). Local air districts that were in “moderate” or “serious” nonattainment of national ambient air quality standards for particulate matter as of January 1, 2004 were required to adopt regulations to reduce emissions from agricultural sources (CAPCOA 2004).³

The regulations were to address both “fugitive” and precursor emissions. Air districts were required to hold at least one public hearing to accept testimony on their proposed rule by September 1, 2004. The final rule was to be adopted on or before July 1, 2005 at a public hearing and be implemented by January 1, 2006.

To aid those regulated under the new permit system, SB 700 created two additional instruments. The first is a mitigation clearinghouse. CAPCOA in consultation with CARB will create and maintain a database of mitigation measures or strategies available for agricultural sources. This allows for those seeking permits to view benchmarks and acceptable practices for reducing emissions.

The second instrument is access to financial resources. SB 700 would require the California Pollution Control Financing Authority to expand access to the Capital Access Loan Program for Small Businesses to include outreach to financial institutions that serve agricultural interests for the purpose of funding air pollution control measures (CAPCOA 2004). This would help to guarantee loans made for to purchase pollution control equipment.

depends on both the type of pollutant and the status of nonattainment of national ambient air quality standards. In 2003, the SJVAPCD was classified as severe nonattainment in terms of NOx and VOCs and serious nonattainment in terms of PM-10. So a major source threshold for NOx and VOCs would be 25 tons per year, while it would be 70 tons per year for PM-10.

³ Since the SJVAPCD was designated as a serious nonattainment district, they were required to incorporate best available control measures (BACM) and best retrofit control technology (BARCT).

Data and Methodology

Schneider and Ingram (1993) argue that elements of policy design are political phenomena amenable to empirical analysis. In particular, “Data can be generated by the study of texts, such as legislative histories, statutes, guidelines, speeches, media coverage, and analysis of symbols contained therein” (Schneider and Ingram 1993, 335). The data used to analyze the policy design of SB 700 was gathered from several sources. The first is the legislative record for the bill. Since SB 700 was passed and signed into law by Governor Davis, material from the governor’s chaptered bill files (e.g., analyses and correspondence) are part of the database.

In addition to the official record of the bill, newspaper articles and editorials concerning SB 700 were included for analysis. Searching the *ProQuest* newspaper database from February 21, 2003 to September 22, 2003 using the keyword “SB 700” yields 81 newspaper articles and editorials for use in the narrative analysis. Articles and editorials after this date are used to examine the dynamic relationship between narratives, policy tools, and agents and implementation structures in the implementation activities of SB 700.

A special report entitled “Last Gasp” published in the *Fresno Bee* on December 15, 2002 is also included in the narrative analysis. While the report predates the introduction of SB 700, it is included because it is continually cited by the bill’s author and its supporters and opponents in the legislative materials. Its importance in shaping the debate over this bill warrants its inclusion.

The specific form of discourse analysis used to analyze the texts of SB 700 will be Roe’s (1994) narrative policy analysis, which consists of two stages. The first is the disaggregation of the text into discrete problem statements, which contain the simplest assertions of causal relationships or sets of causal relationships that link problems to their source (Roe 1994; Newton 2005; and Stone 1997). The second stage requires the aggregation of all the problem statements across the entire “data set” or texts. This allows the researcher to see the pattern of commonly identified problems and causal relationships concerning the policy. It is these aggregated problem statements that are then identified as narratives (Roe 1994).

Analytical Framework

The NPF framework is used to identify and demonstrate the implications of narratives for the design of SB 700 (Jones and McBeth 2010). The framework identifies a basic structure of narratives and provides basic belief system linkages and preliminary hypotheses. The basic structures of a narrative include “a setting or context; a plot that introduces a temporal element . . . providing both the relationships between the setting and characters, and structuring causal mechanisms; characters who are fixers of the problem (heroes), causers of the problem (villains), or victims (those harmed by the problem); and the moral of the story, where a policy solution is normally offered” (Jones and McBeth 2010, 340). This structure is grounded in a belief system that anchors the narrative “in generalizable content to limit variability” (Jones and McBeth 2010, 341). From this premise, one can test hypotheses at both micro and meso levels (Jones and McBeth 2010, 345).

This framework fits with elements of Schneider and Ingram’s (1997) theory of policy design, which allows the NPF to be used to explore how narratives shape policy design. The key linkage is the concept of socially constructed target populations. This refers to the recognition of shared characteristics that distinguish a target population as socially meaningful, and the attribution of

specific valence-oriented symbols and images to the characteristics” (Schneider and Ingram 1993, 335).

Positive constructions label target populations as “deserving,” “honest,” and driven by “public interest.” Negative constructions label target populations as “undeserving,” “dishonest,” and “self-interested.” These portrayals are captured in the NPF by the discussion of characters (e.g., heroes, villains, and victims) as part of the narrative structure. Narratives utilizing the social constructions of target populations influence the other aspects of policy design including policy tools, agents, and implementation structures. This allows for meso-level hypotheses between narratives and different aspects of policy design.

Narratives serve to amplify our notions of who is “deserving” and “undeserving” of the benefits of government policy. The credibility of narratives depends on tapping into the preconceived ideas of groups in the larger social context (Newton 2005; Schneider and Ingram 1997). Policy tools “are elements in policy design that cause agents or targets to do something they would not otherwise do with the intention of modifying behavior to solve public problems or attain policy goals” (Schneider and Ingram 1997, 93).

The choice of tools reflects the assumptions and biases about how different people and targets behave (Schneider and Ingram 1990; 1997). Policy tools applied to deserving target populations emphasize the positive aspects of the group. Capacity-building and learning tools reward with benefits and penalize with burdens. These tools tend to see the group as being able to act independently of the policymaker. However, undeserving groups will be on the receiving end of a combination of sanctions and authority-laden tools. Undeserving target populations are treated in a coercive manner with respect to burdens. Thus, as a narrative portrays a target population in a more positive way, the more likely policy tools are to emphasize the positive aspects of this group.

According to Schneider and Ingram (1997, 89), agents are “the means for delivering policy to target populations.” The implementation structure refers to the relationships among various agents and their connections to target groups (Schneider and Ingram 1997). Policymakers reward deserving groups in a highly visible way. Strong statutes that clearly provide the reward directly in the legislation are used frequently.

Placing burdens on the deserving groups usually entails an approach to implementation that seeks to build consensus and support for the policy (Schneider and Ingram 1997). Agents and implementation structures tend to operate differently for undeserving groups. The assessment of burdens is done very visibly in a strongly worded statute. The rewarding of benefits is done using a more decentralized process, although the statute may provide specific eligibility criteria (Schneider and Ingram 1997, 136). Thus, as a narrative portrays a target population in a more positive way, the more likely agents and implementation structures directly reward this group.

Analysis—Narratives and the Social Construction of Target Populations

Roe’s (1994) narrative policy analysis was applied to the materials making up the SB 700 database. In all, there were 202 discrete problem statements identified in the texts. The aggregation of these individual statements revealed four major patterns of problem-cause relationships. Narratives play an important role in shaping the social construction of populations targeted by SB 700. They capture the context of the struggle to end California agriculture’s exemption to air pollution permits. This struggle takes place in the state legislature and has a very partisan base.

Democrats assemble a coalition of environmental and public health groups in support of SB 700. Republicans construct a coalition of various agricultural and municipal organizations to oppose the legislation. The following is a discussion of these four narratives and their varying constructions of target population.

The “Complex Cause” Narrative

This narrative takes the form of both a complex system and institutional causal story. Agricultural sources are not specifically targeted, but are presented as part of a larger, more complicated system of cause and effect (Grossi et al. 2002). This complex system narrative posits an intricate causal chain of interactions and sources that cause air pollution in the San Joaquin Valley. It is this air pollution that leads to adverse health effects. This narrative is encapsulated by the following discussion:

Encircled by mountains and populated by millions of people with vehicles and industries, the San Joaquin Valley may be the most perfect place in the nation for air pollution. On hot, windless summer days, the main problem is ozone or smog. In the fall and winter, it's particulates, tiny bits of soot, dust, and other solids that hang in the air. Both can linger for days or weeks in this 25,000-square mile bowl building to levels that endanger human health. Four key factors are the Valley's unforgiving topography; its swiftly growing population; its unusually stable climate; and its surprising array of pollution sources" (Grossi et al. 2002, 12).

Thus, it is a combination of natural and demographic factors, along with a variety of mobile and stationary sources that emit harmful air contaminants in the valley.

This narrative establishes two important ideas that carry through the rest of the policy discourse. The first is that air quality in the San Joaquin Valley is bad. Numbers play an important role in establishing air quality as a problem that needs to be solved. In particular, EPA has established national ambient air quality standards (NAAQS) for ozone and PM-10. The San Joaquin Valley Air Control District is in serious nonattainment for PM-10 and severe nonattainment for ozone with the possibility of moving to extreme nonattainment (CAPCOA 2004; Grossi et al. 2002, p. 3).

The second foundational element is that this poor air quality leads to adverse health and environmental impacts (Grossi et al. 2002). These are the victims of the narrative. Ozone and particulate matter are associated with a variety of health effects including reduced lung function, permanent lung damage, increased risk of cardiac death, increased risk of lung cancer and heart disease, and aggravated asthma (Grossi et al. 2002). Of all these, the incidence of childhood asthma garners the most attention. According to figures from 2001, 16.4% of children in Fresno County were reported as having asthma (Grossi et al. 2002, 8). This is higher than the statewide rate of less than 10% and the national rate of 5.5% (Grossi et al. 2002). Grossi et al. (2002, 7) note, "Health officials cite the number of children with asthma in the valley when advocating for stricter pollution standards." In addition to these figures, the authors of "Last Gasp" utilize personal vignettes to drive home the human toll exacted by exposure to high levels of these pollutants.

Institutional sources are also indicted in the narrative. According to Deborah Stone (1997, 195), problems may be "caused by a web of large, long-standing organizations with ingrained patterns of behavior." Some claim that the interaction of various government officials with one another and industry have led to delays in cleaning up the valley's air. Grossi et al. (2002, 3) note, "The valley's last 30 years are littered with accounts of the federal government issuing proposals,

edicts and threats to clean up the air, only to accept delays and compromises after meeting resistance. Industries, local elected officials, and even state regulators have had a hand in the process.”

The EPA has the power to sanction noncompliance with the Clean Air Act; it has a history of backpedaling. In the 1990s, CARB underestimated vehicle pollution emissions and failed to act in a timely manner. The SJVAPCD has been accused of bowing to various industry pressures and not pursuing stronger emission reducing strategies (Grossi et al. 2002, 3).

Natural and institutional forces aside, there is no shortage of “villains” contributing to the polluted valley air. Chief among these are passenger cars and trucks, gross polluters, and diesel trucks (Grossi et al. 2002, 19, 20). All told, these and other mobile sources account for 56% of NO_x and 41% of VOCs emitted in the San Joaquin Valley Air Basin (Grossi et al. 2002, 19).

Agricultural activities generate a significant amount of pollutants. Emissions from sources such as farm diesel engines and dairy operations account for 54% of particulate matter (PM-10) and 25% of VOCs in the valley’s atmosphere (Grossi et al. 2002, 19). In addition to these major categories, sprawling development encourages more driving and less environmentally friendly modes of transportation (Grossi et al. 2002, 24).

Complex systems and institutional causes make finding policy solutions difficult. Stone (1997, 196) notes “Complex explanations are not very useful in politics, precisely because they do not offer a single locus of control, a plausible candidate to take responsibility for a problem, or a point of leverage to fix a problem.” However, the complex cause narrative does provide some insights into the discourse surrounding SB 700. It establishes two ideas taken as givens by all participants in the discourse. Air pollution in the valley is bad and it is related to adverse health effects. Other narratives take these as facts not to be disputed.

The narratives to follow emphasize selected pieces of the multicausal chain and deemphasize others. This is done to accomplish the strategic ends of different actors in the policy process. Thus, the complex cause narrative acts as a context or backdrop for the coming discourse.

Federalism and the Air Permit Exemption

In the complex cause narrative, federalism functioned to delay the process of cleaning up the air. In this narrative, the federal relationship will serve as an incentive for California to end agriculture’s exemption to Clean Air Act permits. This sets off a story of potential decline. On May 14, 2002, the EPA and EarthJustice Legal Defense Fund settled a lawsuit concerning whether or not EPA should regulate major agricultural sources of pollution. Under the settlement, the EPA found California’s exemption for agriculture violated Title V of the Clean Air Act. Thus, “if the state fails to revise its agricultural exemptions, increased pollution offsets will take effect on November 15, 2003, and California will lose its federal highway funding on May 15, 2004” (Lazaroff 2002).

Pollution offsets would be imposed on new and modified sources. Business and industry would pay increasing bills to expand their activities. Loss of the highway funding would amount to around \$2.4 billion for 2004. Thus by not ending the state’s agricultural exemption, state policymakers and citizens became the victims of this narrative. The ending of the exemption became imperative.

While there were alternative solutions, the approach taken by SB 700 argues agriculture is a significant contributor to air pollution and should be required to play a larger role in the cleanup effort. Florez believed the exemption needed to be repealed and regulations on agricultural sources extended, “We’re not taking our cue from EPA. . . . If farmers’ argument is going to be

that the EPA says we don't need to go that far, that's not acceptable. We are not interested in doing the minimum. We want to clean the air" (Knight Ridder Tribune Business News 2003).

Florez believed that the additional EPA requirements announced in June 2003 supported his argument. Specifically, the EPA announced that farms must be included under new source review permits (Grossi 2003a). Florez argued, "There is no way to avoid it. . . . You have to remove it now to make sure the state can comply with all of the Clean Air Act" (Grossi 2003a). As the clock ticked closer to the imposition of sanctions, wholesale repeal of the exemption gained momentum. As Fitzenberger states, "agricultural leaders knew some form of SB 700 had to pass. It is the only bill to lift the exemption, and failing to do so could lead to a loss of billions of dollars in highway funds and increased fees for some businesses" (Fitzenberger 2003b).

Agriculture as Significant Contributor

This narrative is structured around intentional cause. This suggests that agriculture interests and their political supporters have willfully supported the exemption, and this allowed their contributions to poor air quality to grow (Stone 1997). While numbers are used to detail the level of various pollutants emitted from agricultural sources, comparisons are used to put the numbers in context. According to SJVAPCD and CARB data, agricultural sources are the: "Largest source of nitrogen oxide (NOx) and second largest source of sulfur oxide (SOx)—precursors of smog; largest source of the volatile organic compounds (VOCs) and reactive gases (ROG)—precursor to smog; and second largest source of particulate matter." (American Lung Association 2003; Sierra Club of California 2003).

Grossi et al. (2002) offer another unflattering comparison, "During summer, the \$14 billion agriculture industry creates more lung-searing pollution than the valley's eight highest-polluting large businesses combined" (15). And the significance is growing, "For one of the two major, smog-making pollutants, reactive organic gases, livestock waste is projected to pass cars in 2005. Farm equipment in 2005 will run second only to heavy-duty diesel trucks for nitrogen oxides, the other major smog ingredient" (Grossi et al. 2002, 15).

Some supporters of SB 700 state this argument even more directly. They argue agriculture's longstanding exemption from air permits has allowed the industry to "grow" its contribution to air pollution relative to other groups. According to the California League of Conservation Voters (Letter to Governor Gray Davis 2003), "Because agriculture has gone unregulated for so long as a source of air pollution while other sectors have been subject to air quality rules, there exist many viable opportunities to reduce air pollution from agricultural sources." Thus, ending the exemption not only helps avert national sanctions, but will help the state clean the air (Planning and Conservation League 2003).

This narrative shows the action of the agricultural sources has health impacts. In a letter supporting SB 700, the American Lung Association of California (2003) argues:

The health and air quality impacts of pollution from agriculture in the San Joaquin Valley are tremendous. Every county in the Valley received a grade of "F" for air pollution from a recent American Lung Association report, due to the high number of dangerous smog days. . . . The childhood asthma levels in the Valley are disproportionately high, at triple the national average and the highest regional rate in California. Nearly 12,000 people in the SJ Valley are hospitalized annually for air pollution-related illness.

This mirrors Florez's stated intent in offering the bill in the first place. According to Pollard (2003), "Florez said he introduced [SB 700] because agriculture is a major contributor to air pollution that is related to epidemic levels of asthma in children and other health problems in the Central Valley." In an attempt to put a "face" on the victims, Florez had residents from across the valley testify on behalf of SB 700. As reported by Grossi in the *Fresno Bee* (2003b), "Caleb Schneider, 16, of Hanford, said he has asthma, and he wants to see every effort made to clean the air. 'When you can't breathe', he said, 'nothing else matters.'"

This narrative depicts the agriculture industry as a villain deserving of public policy burdens. The numbers and comparisons define the level of the burden. Since the contribution of the agriculture industry is "significant," their responsibility in the cleanup should be proportionate. The proposed solution will make agricultural sources a part of the regulatory process just like every other industry in the California. For supporters of SB 700, this creates a sense of equity in the treatment of all sources of pollution.

While this harkens back to the complex cause narrative, there is no doubt that supporters have emphasized the role of agricultural sources in the air pollution, allowing others to fade into the background. There is a strategically constructed link between the agricultural sources and the exemption (e.g., the exemption has allowed agriculture's share of emissions to grow in comparison to others because they have been unregulated). This adds to the somewhat negative construction of the agriculture industry.

Agriculture as Victim

This narrative portrays farmers, growers, and dairymen as victims of SB 700's unfair and overly broad approach to regulating the agriculture industry. The plot line paints supporters of SB 700 as villains, who would purposefully hurt the agriculture industry (Stone 1997). It contains a much more positive social construction of agricultural interests (stakeholders). Important aspects of this narrative are contained in the following statement:

This bill (SB 700) goes beyond what has been required by federal EPA to regulate agricultural sources of pollution. Would subject agricultural operations to same air pollution control laws as industrial sources. Farmers and dairies will take on additional costs to meet new air quality standards and will become SIGNIFICANTLY LESS COMPETITIVE WITH PRODUCERS IN OTHER REGIONS [emphasis in the original] (California Assembly Republican Bill Analysis 2003).

As can be seen from above statement, opponents of SB 700 seek to establish two important points in this narrative. The first is the unfair and overreaching quality of the proposed regulatory approach. The second is the dire consequences that will befall those engaged in the practice of agriculture.

Opponents of SB 700 have proposed a more modest solution to ending agriculture's exemption to Clean Air Act permits. SB 807, proposed by state Senator Roy Ashburn (R-Bakersfield), would simply end the exemption for major sources. This proposal "would have allowed some version of the air rules exemption to remain on the books" (Maxwell 2003). SB 700 is portrayed as requiring "EVERY farm and ranch in the state to be permitted and pay fees no matter what level air emissions are attributed to their operation" (California, Assembly Republican Bill Analysis 2003). The more modest approach of SB 807 would allow a differentiation between big industrial farms and small/medium-sized vineyards and fruit orchards (Arax and Pittman 2003) and give credit to current voluntary emissions reduction practices (Terranova Ranch, Inc. 2003).

There is also some concern about the arbitrary and capricious nature of the regulatory structure of SB 700. Many in agriculture do not see themselves as being like other industries. According to Roger Isom, vice president of the California Cotton Ginners and Growers Association, “It’s not like ag is an industrial source that’s going day after day. It’s seasonal. The question is how can we do our share and not be put out of business” (Grossi et al. 2002, 16). An editorial in the *San Francisco Chronicle* makes the case for differential treatment, “The farmers have a decent case for special consideration. A range of 200 crops call for different farming methods, making rule-making tricky. In a struggling economy, new costs should be minimized. As always, water, land prices and import figure, too” (n.a. 2003).

The last component of this narrative is the potential consequences of imposing an unfair and overly broad regulatory approach on agriculture. Opponents of SB 700 argue the agricultural community will not be able to “absorb the additional operation costs resulting from new regulatory fees imposed by LADs, given the international competition in the marketplace for most agricultural operations” (California Assembly, Hearings on SB 700 2003, 3). While increased costs and decreasing competitive advantage will plague the industry, there will also be impacts felt at the level of individual small farms. According to state Senator Chuck Poochigian (R-Fresno), “They are not corporate magnates. They are ordinary people trying to make a living. They are losing their farms. They are making no money at all in some cases. . . . [The bill] punishingly exceeds federal regulations” (Fitzenberger 2003c).

This narrative uses very different language than the previous one (agriculture as significant contributor). Here the agriculture industry is more often referred to as farmers, growers, ranchers, and dairymen. This “puts a face” on the seemingly faceless, corporate agriculture industry. It is these individuals that face the unfair and overreaching regulations of SB 700. There is also a different interpretation of the multicausal narrative. Instead of emphasizing the contributions of agriculture, all of the other sources are placed front and center. This is especially true of passenger vehicles and sprawling development. It is simply inequitable to single-out agriculture for regulation when this will result in increased costs with little or no improvement in air quality. It is only by using a modest approach to address California’s air exemption that this pain can be avoided. Hence, it is the regulatory approach of SB 700 that is the problem in this narrative, not air pollution in the valley.

Analysis—Narratives and Elements of Policy Design

The narratives, as captured by the NPF, have a strong link to the theories of policy design discussed by Schneider and Ingram (1997). Both the portrayal of characters and proposed policy solutions fit with the social construction of target populations and their hypothesized links to elements of policy design. This allows the use of these narratives to hypothesize about what kind of policy tools, agents, and implementation structures will be contained in SB 700.

Both the “complex-cause” and “agriculture as significant contributor” provide a characterization or social construction of agriculture as villain in the narrative of causing pollution harmful to the health of citizens. While the “complex cause” narrative has many more villains, “agriculture as significant contributor” has only one and tells a damning tale of intentional causation. Thus, one should expect to see policy design elements used on negatively constructed target populations.

The “agriculture as victim” narrative portrays agricultural interests in a much different light. This narrative shows agriculture as the victim of punitive and overly broad attempts to regulate

their activities. It provides a more positive construction of this target population. So, given this portrayal, we should expect to see policy designs reflective of a positively constructed target population.

All of these narratives coexist with one another in the larger debate surrounding air quality policy and SB 700. Agriculture and its interests are characterized as both villain and victim in the policy discourse. Different policy solutions are linked to these different characterizations. These varying constructions as agriculture result in seemingly contradictory elements of policy design that both benefit and burden the agriculture industry.

Policy Tools, Agents, and Implementation Structures

The choice of policy tools reflects the social constructions policymakers have used to construct target populations. These policy tools direct the treatment of both targets and agents (Schneider and Ingram 1997). Schneider and Ingram (1993; 1997) argue that different types of policy tools contain different behavioral assumptions about the group being targeted by the policy. Thus, just as the narratives suggest, we should expect to see a mix of policy tools in SB 700 that seek to force the agriculture industry to comply; and those that seek to aid them in achieving compliance.

The structure of the regulatory framework itself is based on the premise that the agricultural industry is a significant contributor and will not voluntarily comply. All agricultural sources are required to meet the most stringent technology standards (e.g., BARCT for PM-10 and BACT for ozone), as well as the best available control measures for mitigation purposes. The required standards reflect what Schneider and Ingram (1997) term an authority tool. The expectation is that industry will obey the requirements.

A locally administered permit system is another part of the regulatory structure. Agricultural sources emitting 50% or more of major source emission levels for PM-10 and ozone are required to pay a fee to operate or construct facilities. According to Schneider and Ingram (1997, 94), “User fees, rates, and charges also are used as incentives, but these do not carry as much positive valence as inducements. . . . Charges can also be distinguished from sanctions in that they do not intend to convey social disapproval of an activity.” Thus, the regulatory structure itself reflects a somewhat negative to ambivalent tone concerning the agriculture industry.

There are a host of other policy tools that will aid agricultural sources in their attempts to comply with the new regulatory framework. These tools echo themes from the agriculture as victim narrative. The first of these is the information clearinghouse on mitigation strategies. This fits the description of a capacity-building tool (Schneider and Ingram 1997). These kinds of tools are supposed to “enlighten, remove impediments, and empower action by the target group or agency itself” (Schneider and Ingram 1997, 94). The agriculture industry is portrayed as a group that simply needs to learn about the best mitigation strategies available. This suggests a more positive social construction of the agriculture industry. It is not a question of willful neglect, but one of needed education.

Regulated agricultural sources will be provided a financial incentive to aid in compliance. Specifically, financial institutions that provide service to agricultural interests will be granted access to additional monies in order to make it easier to provide loans to fund air pollution control measures. This inducement implies “respect for the target population and portray[s] a positive valence of the behavior that is desired” (Schneider and Ingram 1997, 94). Agriculture will receive financial resources to aid compliance with the new rules developed under SB 700’s regulatory framework. This suggests a positive tool for a positively constructed target group.

The nature of the relationship between agent (e.g., local air district) and target (e.g., agricultural sources) reflects themes of the agriculture as victim narrative. The clearest illustration of this relationship lies in the rule-making process for SB 700 (2003). The policy tools utilized here are learning tools. This approach coincides with the “consensus-building” or “support-building” implementation structure (Schneider and Ingram 1997, 90).

This design is “intended to provide a forum for participation and discussion that will enable lower-level agents or target populations to determine what should be done. Statutes usually allocate discretion to lower-level agents or even target populations” (Schneider and Ingram 1997, 90–91). This implementation structure sets the stage for the negotiation of both PM-10 (Rule 4550) and ozone (Rule 4570) rules developed by the SJVAPCD.

Conclusion

This research provides contributions to both policy theorists and practitioners. The NPF itself links context, structure, characters, and policy solutions. This allows policy theorists to capture policy relevant events and link them to policy solutions. In the case of SB 700, there are important elements of context that shape eventual policy outcomes. For example, the federalism narrative shows the importance of a time constraint in moving towards the eventual solutions embodied in SB 700. While there is nothing in the narrative itself that suggests a favored solution, it does put pressure on state policymakers to act in a timely fashion. SB 700 is the only policy solution “standing” at the time. Thus, ending the air exemption for agriculture is done on Senator Florez’s terms.

NPF links narratives to policy solutions and allows for hypothesis testing at the meso-level. While Jones and McBeth (2010) look at the idea of coalition building, the NPF can also be applied to other policy theories. Specifically, what the NPF discusses as characters is very similar to what Schneider and Ingram (1997) discuss as target populations. And the policy outcomes in the NPF are given more specific treatment by Schneider and Ingram (1997) as policy tools, agents, and implementation structures.

The characterization of the agricultural industry was hypothesized to shape the choice of policy outcomes contained in SB 700. Given the balanced treatment of agriculture in competing narratives, it was hypothesized this group would receive a mix of positive and negative policy “solutions.” Indeed, this was the case. SB 700 ended agriculture’s exemption and imposed a strong regulatory system. On the other hand, the agricultural industry and its proponents were given a seat at the table and had a strong hand in shaping just what compliance with regulations meant. The NPF provide both a strong link to Schneider and Ingram (1997) and the same predictive power with respect to elements of policy design.

The research on SB 700 provides insights for practitioners, specifically the relationship between various narratives in the policy discourse. The complex cause narrative provides the most complete discussion of the causes of air pollution in the Central Valley. There are natural, institutional, and a myriad of man-made causes.

Agriculture is only one of these man-made causes. And the link between poor air quality and negative public health impacts is established in terms of overall numbers and the use of comparisons. While this narrative provides a very comprehensive listing of causes and provides strong links to their overall effect, it does little in the way of building policy coalitions. It provides no strategic advantage (Stone 1997).

The more strategically useful narratives are also the more divisive ones. The “agriculture as significant contributor” narrative tells the story of intentional cause. It focuses exclusively on the role of agriculture in causing air pollution resulting in debilitating public health effects. This narrative is used to build a coalition between Democrats, public health, and environmental groups. This argument is also used to justify the more punitive approaches taken in SB 700. As a significant contributor, the agricultural industry must bear more of a burden in cleaning the valley air. The exemption must end and the industry must be regulated.

The other strategically useful narrative is the “agriculture as victim.” It also utilizes an intentional cause plotline. In this case, it is the proponents of SB 700 who are knowingly damaging the economic prosperity of agricultural industry. To counter this, agricultural and supporting groups shift the discussion in several important ways. The first is to redefine the nature of the problem. The problem is not air pollution and public health effects; it is the threat to agriculture and its economic wellbeing. There is no discussion of the public health effects of air pollution. Agriculture is the victim, not the villain. The second is to shift the blame away from agriculture and focus on other potential causes. To some extent this mirrors the complex causes narrative. However, the purpose is different. Here, agriculture and supporting groups are looking to lessen the burden of regulation as much as possible.

While strategy is important for practitioners seeking to build coalitions, narratives can also be used to give voice to interests that are heretofore unheard in the policy discussion. Both the complex causes and agriculture as significant contributor narratives contain a discussion of public health impacts. The focus is specifically on child asthma rates in the Central Valley. These rates are higher than in other parts of the state. Faces are put on the issue (Grossi 2003b). This builds attention to issues that normally do not receive much.

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