2021

Public Participation in Los Angeles Water Resources Management

Hyginus OnyinyeChukwu Mmeje
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Hyginus OnyinyeChukwu Mmeje

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Mark Gordon, Committee Chairperson,
Public Policy and Administration Faculty

Dr. George Larkin, Committee Member,
Public Policy and Administration Faculty

Dr. Timothy Fadgen, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2021

Abstract

Public Participation in Los Angeles Water Resources Management

by

Hyginus OnyinyeChukwu Mmeje

MA, California State University, Long Beach, 1990

BS, California State University, Los Angeles, 1987

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

May 2021

Abstract

Public participation is essential to the efficient management of resources. However, there are significant problems with water resources management and water importation practices in Southern California due to lack of public awareness and input. Little is known regarding specific participants' perceptions that could help in addressing the challenges of Los Angeles water resources management. Grounded in the advocacy coalition framework, this qualitative study was conducted with the purpose of narrowing this knowledge gap. The study explored the role of public participation in Los Angeles water resources management from the perspectives of key actors, resident stakeholders, nonprofit organizations, water agency administrators, and policymakers, who could contribute to improved understanding of imported water challenges. Purposeful sampling was used to recruit nineteen participants. Data were collected from seven participants through online interviews and twelve participants through online focus group discussions. Coding and thematic data analysis were conducted to identify the following emerging themes: roles of the public, effectiveness of public participation, and outcomes of public engagement in Los Angeles water resources management. The data analysis results indicated general participant consensus that public participation has played important roles and produced effective outcomes that have moved Los Angeles from expansive extraction to retraction and refinement of imported water. The positive social change implications of this study are that results may inform the future direction of Los Angeles water resources management, and promote improved public engagement, awareness, understanding, and quality of life for all parties concerned.

Public Participation in Los Angeles Water Resources Management

by

Hyginus OnyinyeChukwu Mmeje

MA, California State University, Long Beach, 1990

BS, California State University, Los Angeles, 1987

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

May 2021

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Introduction

The pursuit of more water to serve a growing population and economy has been a crucial factor in California history, affecting Los Angeles in particular (Green, 2007; Hanak et al., 2011). Until recently, this history has not been about involving the people in decision-making processes about water-resources planning and management that affect their quality of life (City of Los Angeles Integrated Resources Plan [IRP], 2006; Council for Watershed Health, 2015). As a result, a qualitative case study design capable of capturing and interpreting the enormous complexity inherent in this issue was required and chosen for the present study.

California's water crisis remains the outcome of a flawed code of practice and inadequate planning that have left citizen stakeholders out of the decision-making process and state elected officials struggling to resolve water problems (Brown, 2008; Hanak et al., 2011). California's current water policy is fragmented and inconsistent, and it lacks transparency and clear authority (Brown, 2008; Pincetl et al., 2016) due to limited public participation and other factors. These factors include changes in the value ascribed by society to ecosystems, growing urbanization, declining state and federal financial and technical support, a shifting climate, and outdated water management systems (Hanak et al., 2011).

In the Los Angeles metropolitan region, nearly 100 public and private entities are formally involved in the management and distribution of potable water, a legacy rooted in fragmented urban growth in the area and late 19th-century convictions about local control

of services (Pincetl et al., 2016). An analysis of how Los Angeles's various water supply infrastructures came to be illustrated how historical circumstances and often-conflicting strategic paradigms to secure water resources have complicated the ability to achieve sustainable water solutions (Cousins & Newell, 2014). According to Pincetl et al. (2016), in Los Angeles,

- Past water abundance resulted in a complex but less than resilient water system, with water users accustomed to cheap, easily accessible water.
- The water management institutional architecture, or the arrangement of water management institutions, has significantly inhibited the system's adaptability to change and engage people.
- Water management agencies' response to drought and climate change has remained underexplored and, as a result, has failed to inform potential public policy changes and engagement.

These factors established an unreliable water supply, water scarcity, and increased flood risk as aspects of life in California (Brown, 2008; Hanak et al., 2011) and limited public participation. According to Lauer et al. (2018), public participation is important for improving social-ecological systems management, and lack of public engagement leads to unintended outcomes.

The current struggles over California's water are extensive and reveal the state's diverse landscape, climate, economies, ecosystems, and cultures. According to Brown (2008), the need for a change in California water management has been acknowledged by researchers, practitioners, and elected leaders who are familiar with the old model; still,

the necessary tools and paths forward are not always well understood or adequately resourced. In the Los Angeles region, ecological, social, and economic life and activities depend on importing approximately 87% of the region's water supply from outside the region (Los Angeles Department of Water and Power [LADWP], 2013). Because water knows no boundary, a regional approach is essential to exploring Los Angeles's water resources planning and infrastructure development policy. As a result, in this study, "Los Angeles" refers not only to the City of Los Angeles, though that is central, but also to most of the Los Angeles County area that is south of the San Gabriel Mountains, including the Los Angeles River and San Gabriel River watersheds, as well as the costal watersheds from Palos Verdes to the Santa Monica Mountains that drain to the Pacific Ocean (Green, 2007).

In the early 1980s and 1990s, Los Angeles's clean water facilities planning efforts:

- focused on developing a cost-effective infrastructure that did not always adequately address public participation and project impacts on communities and their surrounding environment;
- were met with public criticism and community protests; and
- did not always consider the relationship among independent water service functions of wastewater, drinking water, and stormwater in a comprehensive regional watershed approach but continued to produce single-purpose plans (City of Los Angeles IRP, 2006).

In about 1999, after a civil lawsuit, settlement agreement, consent decree, and a cease-and-desist order, Los Angeles City Hall launched its integrated resources planning process that is today known as the "One Water" Los Angeles Program to involve the public in the planning process (City of Los Angeles, 2015).

A favorable social change implication of this study is a potential increase in public awareness of the role that public participation can play in water resources planning and public policy decision-making processes. The research could be used as a vehicle for spreading awareness that people can and ought to participate in water resources planning. Getting involved may not be something to shy away from and may not be relegated to some privileged few when decisions on the availability of reliable, high-quality water supply and related infrastructure affect a community or region's quality of life. At the same time, the research could be a vehicle for highlighting the limitations and trade-offs of public participation, as not everyone can participate at the same level.

Background

A review of the literature indicates that Los Angeles area water agencies did not share information or communicate effectively with each other and with the public, particularly in the 1980s (Council for Watershed Health, 2015). Current studies suggest that water agency staff perspectives may be hindering public participation, much as they have hindered innovation (Kiparsky et al., 2016). Citizen stakeholder involvement and public participation in the form of policy coalitions can provide a means for understanding how several actors—public officials, private actors, and the community—can work together toward sustainable governance and making sustainable public policies

(Clavier & O'Neill, 2017). Participating citizen stakeholders in the community's water resources planning decision-making processes and policy coalitions may ally with public or private actors to defend or support a particular project or vision (Clavier & O'Neill, 2017).

Though public participation reached its pinnacle during the environmental movement and resulted in the enactment of federal and state water-related laws as well as recognition of the environment as a stakeholder in water resources planning and administration, it did not solve the Los Angeles water scarcity problem (Hanak et al., 2011; Peden, 2016). Major regions such as Los Angeles and San Francisco continue to lack sufficient and reliable water supply, leading scholars and analysts to ask whether public participation has lost its luster and no longer plays an essential role in bringing about positive changes to water resources planning in these urban areas. An analysis of how Los Angeles's various water supply infrastructures illustrates how historical circumstances and often-conflicting strategic paradigms to secure water resources have complicated the ability to achieve a sustainable solution (Cousins & Newell, 2014).

In California, water is considered the most precious public resource, and the government is uniquely charged under the state constitution to manage water as a scarce resource (Los Angeles Times Editorial Board, 2016; Orr et al., 2012). Water is not like petroleum, a resource that is valuable but optional for individual use. As unthinkable as it has become in Los Angeles to go without a car, an individual does not have to drive or use petroleum. In contrast, water is more like air, an indispensable resource for human life, health, and safety (Los Angeles Times Editorial Board, 2016; Orr et al., 2012).

Water is the State's most precious resource, and creating a more resilient, self-reliant Los Angeles means increasing the amount of water that Los Angeles obtains from local sources (Garcetti, 2015).

Regarding sustainability and livability, life exists where there is water (Ball, 2005), and this is particularly true in Los Angeles, where water is so vital that it must be imported from regions outside Los Angeles to support ecological, social, and economic life (Green, 2007; LADWP, 2013). Managing these all-important water resources and achieving the desired sufficiency, reliability, sustainability, resilience, and livability require a practical, holistic, and integrated approach in which public engagement and participation play an important role. Public engagement is important for improving social-ecological systems management outcomes (Lauer et al., 2018). Los Angeles and the rest of California need to plan to avoid catastrophic water supply scarcity. In this study, I explored the role of public participation in avoiding catastrophic water shortages, which may help in achieving community sustainability and livability.

Problem Statement

A social problem that Los Angeles is facing is achieving a reliable, clean, and abundant or sustainable water supply. More specifically, the problems that I explored in the present research were (a) public participation or the lack of it in Los Angeles's efforts to address this social problem and (b) the outcomes of limited public participation over the last few of decades in Los Angeles's water resources management and decision-making processes.

The following shows how public participation and engagement in Los Angeles water resources management have been relevant and significant. In the 1900s, Los Angeles officials disguised themselves as federal Bureau of Water Reclamation officials and purchased lands and water rights in the Owens Valley, setting off a long dispute when Owens Valley and Mono Lake residents became aware of the deception (LADWP, 2013). Ensuing court and Water Board involvement in the 1980s, as well as negotiations that began in 2011 as a series of facilitated meetings involving the Mono Lake Committee, LADWP, California Department of Fish & Wildlife, and California Trout, culminating in the parties' signing of a settlement agreement in August 2013, would change Los Angeles's ability to provide reliable water supply, continuing to influence it to this day (Hanak et al., 2011; LADWP, 2013; McQuilkin, 2016; Peden, 2016).

The problem of the need to engage the people in Los Angeles and California water resources management remains current, relevant, and significant for the following reasons: First, in 2013, the California Department of Water Resources (DWR) recognized 48 Integrated Regional Water Management (IRWM) planning areas—10 less than the 58 counties in the state—whose participants collaborate to manage their water resources more efficiently, making IRWM a major part of the California Water Plan and an important roadmap of California's and Los Angeles's water future (Feldman, 2017). Second, hastening the IRWM for Los Angeles was the resolution of the long conflict between Los Angeles and Owens Valley (Inyo and Mono Counties) that resulted in the restoration of 62 miles of the lower Owens River and the exportation of less water to Los Angeles (Feldman, 2017). Finally, of great significance and relevance is that

collaboration has resulted between Los Angeles (LADWP), the California Department of Fish and Game, and two environmental groups (California Trout and Mono Lake Committee), which entails far greater cooperation among these actors than previously (Feldman, 2017; McQuilkin, 2011). The Los Angeles corporation with Owens Valley groups emanated from the adversarial clash of interests, not from an amicable partnership, and was forced upon Los Angeles by the following:

- the intervention of the U.S. Environmental Protection Agency (USEPA), which forced the resolution of the long Los Angeles conflict with Owens Valley groups, and
- Los Angeles's violation of the Clean Air Act (not the Clean Water Act), which forced Los Angeles to collaborate with state agencies, local Owens Valley officials, and interveners (Feldman, 2017).

Additionally, the relevance of public participation in Los Angeles water resources management is evident in the current effort to "reinvent" the Los Angeles River. For example, in 2016, at public urging, the federal government and the City of Los Angeles government pledged $1 billion to remake into its natural course portions of the 51 miles of the Los Angeles River that were concretized due to several deaths that resulted from a heavy rainstorm and flooding event in 1938. In all of these water management decisions by policymakers at the federal, state, and local Los Angeles levels of government, the problem that has remained is how much public participation is involved and how much difference in outcomes would be made with more, if not robust, public participation, and this was the reason and basis for the central question of the present study.

There are government research programs, academic studies, and scholarly and news articles on water resources planning levels in Los Angeles. However, there has been minimal research on the role of public participation in the Los Angeles water resources management and decision-making processes. This meaningful gap in the current research literature was addressed in the present study using a qualitative case study approach. According to Lauer et al. (2018), public engagement is important for improving outcomes of social-ecological systems management, and lack of public engagement leads to unintended outcomes.

Purpose of the Study

The purpose of this qualitative study was to explore and understand the importance, effectiveness, and outcomes of public participation in Los Angeles water resources management, including infrastructure planning and decision-making processes. The purpose of exploring, evaluating, and understanding participatory programs is to assess whether the objectives are being achieved and to identify how the programs can be improved, such as by enhancing resource management and involving individuals and groups in a democratic way (Carr et al., 2012). The Los Angeles water resources planning process is designed to achieve a sustainable Los Angeles that is less dependent on imported water supply, with early and continuous public participation as a core principle. Therefore, the aim of the present research was to explore how public participation influences water resources and infrastructure planning. This research highlighted the importance of public participation in Los Angeles water resources management efforts.

The central concept of this research was public participation in Los Angeles water resources management, which was studied using advocacy coalition framework (ACF) theory, focusing on understanding the following:

- the economic, social, and environmental factors that shape public participation in water resources planning in Los Angeles, and
- the perceptions, motivations, structure, resources, and skills that citizen-stakeholders and their coalitions need to remain engaged and active in the water resources decision-making process in Los Angeles.

Advocacy research provides a voice for participants by raising their consciousness or advancing an agenda for positive change to improve their lives and become a united voice for reform and change (Creswell & Creswell, 2018). There is scant literature on the best way to create policy in a manner that involves considering the people's voice (Fitzgerald et al., 2016). A review of the scant literature available portrays public participation as a key component in policy decision making. Nevertheless, the decision-making process is often driven by other stakeholders such as experts, institutions, and governing bodies, to mention but a few (Fitzgerald et al., 2016). The question is this: To what extent does public participation in decision making make a difference in shaping policy for water resources management in Los Angeles? In this study, the specific positive social change issues of informing and empowering participants were addressed, while requiring the research to proceed collaboratively to not further marginalize the participants due to the inquiry. In this regard, the participants could help to design

questions, collect data, and analyze information, and they could reap the research rewards.

It is important to understand the role of public participation in shaping regional water resources planning and infrastructure development policies and programs for Los Angeles. As a result, a possible positive social change implication of this study is a potential increase in public awareness of the role that public participation can play in water resources planning and public policy decision-making processes. This study could be used as a vehicle for spreading that awareness and letting people know that they can and ought to participate, but not without the following two considerations. First, getting involved may not be something to shy or stay away from, such that it is relegated to some privileged few, when decisions on the availability of reliable, high-quality water supply and related infrastructures affect quality of life for the community or region. Second, there may be limitations and trade-offs of public participation, as not everyone can participate at the same level.

The participants for this qualitative research were a select number of Los Angeles residents, stakeholders, water resources managers, and policymakers. Participation was limited to those who lived or did business in Los Angeles. Only citizens who were 18 years of age at the time of the study participated. Participation was anonymous, and all data will remain confidential. The participants were those who willingly volunteered to participate in a research interview. The selected research site was the Los Angeles Civic Center area, centrally located for the ease and convenience of the participants, most of

whom were usually in the civic center area and attended water resource planning events or activities.

This study contributes to the public policy and administration profession because the belief that citizens should be given a voice in their governance by including them in the deliberative process appeals to the democratic ideals identified globally as a unique aspect of the United States, especially actively engaging citizens in the decision-making process (Callahan, 2007). The present study explored public participation in the Los Angeles water resources management and decision-making process and determined the participants' perceptions, the processes' success over time, and opportunities for enhancing outcomes. The goal was to increase public awareness and affect the fundamental institutional changes of Los Angeles water resources agencies toward participatory water resources management capable of solving the Los Angeles problems of unreliable water supply and over-dependence on imported water supply. Additionally, by expanding the understanding of science and policy analysis in the water resources policy process, the present research may contribute to public policy and administration. The potential for positive social change of the present research is expected to include increased public awareness of the roles and importance of public participation in water resources management and decision-making processes, especially when long-term water supply sufficiency is vital in Los Angeles.

Research Question

The research question was the following: What are the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources

management? To understand this question and answer it effectively, one needs to understand, as a point of reference, the institutional planning practices being implemented by water resources managers in Los Angeles to achieve a sustainable long-term water supply that is reliable and resilient to climate change and drought conditions. The primary program of interest is the City of Los Angeles's One Water Program, which was led by the City's Bureau of Sanitation and Environment (LASAN), in collaboration with the LADWP, and other 100+ individuals and stakeholder groups. The LA One Water Program is preceded by the City of Los Angeles's IRP program, which with the election of Mayor Eric Garcetti became the City of Los Angeles One Water Program until 2018/2019, when the One Water Program ended with the departure of the One Water Program "champion" to another City Bureau.

Other significant programs, events, and institutional practices of Los Angeles water resources managers and stakeholders of interest are as follows:

- the community involvement efforts that were initiated before the City's One Water Program and IRP, which were led by Dorothy Green and the coalitions that she was instrumental in forming, such as the Los Angeles and San Gabriel Rivers Watershed Council, which later became the Los Angeles Council for Watershed Health (Green, 2007);
- parallel efforts to the city's IRP programs, which include the Metropolitan Water District's (MWD) IRP and adaptive management planning and the Greater Los Angeles Region's (GLAR) Integrated Regional Water Management (IRWM) program; and

- the various new programs and initiatives, including the mayor's Green New Deal, which has a goal of achieving 100% of recycling water and sourcing 50% of the Los Angeles water supply from local sources by 2035 (Mayor Eric Garcetti, 2018), and the recent voter passage of Los Angeles County-wide Measure "W" for funding stormwater capturing and reusing stormwater runoff, to name but a few.

In all of these programs, particularly the city's IRP/One Water Program and the IRWM, what was the role of the public, working collaboratively with water resources managers and policymakers, including the courts, to achieve a sustainable, reliable, and resilient water supply for Los Angeles City and GLAR? How effective had public participation been in Los Angeles water resources planning and decision-making processes within the past 30 years, from the early 1990s to the present? What were the perceptions of progress toward achieving a reliable water supply from the stakeholders and actors—individuals, groups or coalitions, water resources managers, and policymakers elected or appointed?

Theoretical Framework

The concept that grounded the present research was ACF theory. During the literature review on public participation in water resources planning. I found that ACF theory concepts were suitable for governing the understanding of the central phenomenon of the present research, which was public participation in Los Angeles water resources planning and management. ACF theory originates from the work of Sabatier (1991) in collaboration with Jenkins-Smith (Sabatier & Jenkins-Smith, 1993; Weible et al., 2011).

ACF theory indicates that government agencies' involvement and collaboration need to combine independent citizen and interest□group involvement in the community with the strengths of structured planning, decision making, and performance measurement by the government (Swain & Hollar, 2003). ACF theory posits that to create public trust and ownership, the government must coordinate a negotiated public service (Swain & Hollar, 2003). It incorporates the logic of constitutional choice that views public agencies as responsible for not merely performing services directed by someone at the top. According to the theory, public agencies are also responsible for serving as the means for allocating decision-making capabilities to provide public services and goods that are responsive to individuals in different social situations (Sabatier & Weible, 2014). An underlying concept of ACF theory is that an engaged and informed public is considered vital to any effort to achieve lasting innovations in urban water settings worldwide (Kiparsky et al., 2016).

ACF theory provided a suitable framework for exploring public participation in water resources planning in Los Angeles, the present research's central phenomenon. For instance, using ACF theory, public participation can be understood to relate to what motivates stakeholder groups to form, sustain, and influence water resources planning for Los Angeles while working through existing institutional arrangements to change the institutions and result in a positive social change.

The basic concept of social and environmental responsibility is that institutions and businesses are not to cause harm to stakeholders purposefully or knowingly. Moreover, they must focus on performing responsibly toward the community and the

environment (Chan, 2013; Krutz et al., 2019.). Ihlen (2008) added that organizations need to know and conform to what the public and the stakeholders consider socially and environmentally responsible activities.

Nature of the Study

Merriam and Tisdell, (2015) defined the qualitative case study design that I selected for the present research. The rationale for this selection was that the qualitative study design was suitable for understanding the practical consequences and useful applications of what could be learned about the fundamental concept and phenomenon being investigated, which was public participation in water resources management (Merriam & Tisdell, 2015; Ravitch & Carl, 2015). Moreover, the qualitative study design was used to answer straightforward questions without framing the inquiry within an explicit theoretical, philosophical, epistemological, or ontological tradition (Kahlke, 2014; Merriam & Tisdell, 2015). This design was used to find new and unique ways of drawing from the toolkits of one or more established methodologies to build something new (Ravitch & Carl, 2015). A qualitative design is appropriate when the exploration experience sought is not an intense one, which might otherwise suggest multiple interviews in a phenomenological frame (Kahlke, 2014; Merriam & Tisdell, 2015; Ravitch & Carl, 2015). Some scholars have expressed concern regarding “method slurring” or methodological mixology that may occur when someone is not using one of the established philosophical traditions, such as phenomenology or grounded theory (Kahlke, 2014).

Participant Population, Recruitment, and Sampling Processes

The population for this qualitative case study consisted of people or groups of people who were knowledgeable about, participated in, managed, and made decisions regarding Los Angeles water resources planning and management. The research method involved individual semistructured interviews of single participants or members of a particular group of participants such as water resources managers and state and local policymakers. I used convenience sampling to ensure that key individuals and groups were included in the interviews. The criteria on which participant selection consists of those individual stakeholders or groups, water resources managers, and policymakers who participate or are knowledgeable about the Los Angeles water resources planning and management. Based on Rubin and Rubin (2012), the number of individual participants or cases for this qualitative study was 10. The rationale for using 10 participants was that this number would meet the consensus average participant size for a qualitative study in public policy and administration. My goal was to seek saturation, so I anticipated a minimum of 10 participants.

The sampling process included providing no incentives to participants other than the motivation to help Los Angeles residents understand how they participated. The role, need, and benefit of public participation in their water resources planning decisions affect their quality of life. I made the participant selection decisions. My participant recruitment approach was informal, voluntary, and casual. I gave potential participants a written description of the study that included the study's primary objectives and how the data to be collected would be used. All recruited participants were required to give written and

informed consent. Data were collected and analyzed for themes and patterns. The key aim of this study was to explore the role and effectiveness of public participation based on ACF theory.

Definitions

The following terms have been defined for this qualitative study:

Collaborative decision making: Los Angeles's water resources planning process involving the people and community in the decision-making process for water quality, resources, stormwater, clean water, and related infrastructure. It is designed to increase sustainable water management for Los Angeles by making programs and policies to manage water in a more integrated and collaborative manner (One Water LA Program, 2017).

Collaborative decision-making bias: Bias, in this sense, refers to a firm conviction—or a priori belief—that the precise value of community-level planning is readily justified on its own merits. It is the underlying conviction that community participation is not only valuable, but also required (Cortner & Moote, 1994). It is the belief that the impact of community planning upon water resource planning in Los Angeles must be both direct and positive. This bias constitutes a direct threat to the overall validity of the study.

Institutional arrangements: Consist of those processes through which structures, such as schemas, rules, norms, and routines, become established as authoritative social behavior guidelines (Ali, 2005; Ali-Hassan, 2005).

Public participation: As used in the present study, this term evokes and implies the deliberative democratic process whereby public and grassroots nongovernmental organizations (NGOs) and citizen stakeholders participate with water agencies and policy makers in making sustainable water resources management decisions for Los Angeles, which affects their quality of life.

Stakeholder management: Defined as "managerial actions taken, or behaviors demonstrated in response to the group or individual stakeholders" (Freeman, 2010, p. 48). The concept of stakeholder theory was introduced in 1963; however, it was in 1984 that Freeman (2010) developed the concept of stakeholder management in the form of an approach about individuals or groups who can impact organizations" (Stieb, 2009).

Assumptions

While conducting the literature review, I came across the following assumptions relevant and critical to the meaningfulness of the present study because they clarify aspects of the study that are believed but cannot be demonstrated to be true. The assumptions are in the categories of honesty, historical, administrative, and environmental.

Honesty and Historical Assumptions

The honesty assumption was that participants were honest and completed the interview to the best of their ability. Another assumption was that the sample population was sufficient to cover the greater population. The historical assumption was that early efforts and projects to control and distribute water in Los Angeles and California were

undertaken with little or no thought to stakeholder involvement, the environment, and local economic consequences (Peden, 2016).

Administrative Assumptions

The administrative assumptions were concerned with the actions of the California Court system. The assumption was that California Court decisions first viewed groundwater and surface water as integrated resources and thus contributed to redefining regional integrated water resources planning and management. The court's new definition of integrated water resources management was central and essential to the present sturdy because it reflects consideration of the following: (a) the economic growth and prosperity needs of largely populated cities such as Los Angeles and San Francisco that import water for their growth; (b) the ecological needs of sparsely populated regions such as Owens Valley that export their water; and (c) the equitable rights of all concerned (Peden, 2016). The court decisions imply that those responsible for integrated regional water resources management must holistically consider the economic, ecological, and social equity (i.e., the "three Es of sustainability") of the regions involved (World Commission on Environment and Development, 1987).

Environmental Assumptions

The environmental assumptions were related to drought-induced water shortages. The assumption was that the State of California, recognizing the need to manage the state's water resources sustainably, was facilitated by the 5 consecutive years of drought from 2012 to 2016. The years of drought created a water supply shortage in California (Serrano, 2011). The understanding of the assumption was that the drought increased the

attention and will power of California Governor Brown and state legislators to act, ultimately facilitating the state's enactment of a Sustainable Groundwater Management Plan for the first time, in 2014 (Peden, 2016; Serrano, 2011). The cycles of drought and flooding in California have fundamentally shaped how water is managed and prompted Governor Brown to declare a drought emergency in January 2014, institute conservation measures, and mandate urban areas to cut water use by 25% by April 2015 (Dallman, 2017).

An environmental assumption, at the local Los Angeles level, was that the consecutive years of drought and the need to reduce dependence on imported water supply facilitated the City of Los Angeles's undertaking of its second phase of integrated water resources planning, now called the "One Water LA Program," which made public participation a cornerstone of the effort. The One Water LA Program integrated planning for all water service functions of drinking water, wastewater, stormwater, watershed management, water conservation, water reuse, and water recycling into a regional water resource planning effort (One Water LA Program, 2015).

Scope and Delimitations

The specific focus chosen for the present research was public participation in Los Angeles water resources management. Public participation and its effectiveness in influencing effective positive changes in Los Angeles water resources management received limited attention in the current literature review. As a qualitative study, this comprehensive analysis focused on water resource management in Los Angeles. Emphasis was afforded to the role of community engagement by Los Angeles

stakeholders, including individual residents and businesses or their groups, advocacy coalitions, nonprofit organizations, and other relevant stakeholders. Emphasis was also afforded to the stakeholders' interactions with the officials of water resources institutions that they were trying to influence, including water resources managers, administrators, and policy makers. Together, the stakeholders and the officials of the water resources institutions or agencies constituted the population included in the present study, and together they defined the boundaries of the present study. The study population included the community stakeholders and water resources managers, administrations, and policy makers but did not include the consumers and other agencies that did not support the water resources management.

The theoretical framework most related to this study was ACF theory. It deals with stakeholders' or actors' and advocacy coalitions' involvement, interaction, and collaboration with water resources managers in water resources management decision-making processes.

This study has the potential for transferability because it is conceivable that the learning advancements facilitated by this study are generalizable to other contexts. Los Angeles was purposively selected as the geographic focus of this study. This was due to many deeply rooted water scarcity and water importation similarities that it shares with other densely populated areas of California and the West Coast of the United States. Many of these same communities are in a continual quest for the freshwater supplies required to facilitate growth and expansion. The collaborative and integrated efforts of Los Angeles water resources participants and managers to address and reduce

overdependence on imported water supplies and improve locally sourced water supply might help other regions of California whose residents also suffer from limited water resources and water supply.

Limitations

One of the limitations of the present research that related to design and methodological weaknesses, including issues related to limitations of transferability and dependability, was an almost exclusive focus on importing water from Owens Valley in the Sierra Nevada area of California. Importing water from the other two main sources of imported water for Los Angeles—the California Bay Delta and the Colorado River Basin—were not focused on, but merely mentioned in the study, as a general research strategy employed to minimize resource constraints. It is unlikely that this focus impacted the study results negatively. In part, I focused on the Owens Valley because this area served as the primary source of water for the Los Angeles region, as it had for over a century. As a result, Owens Valley provided the case that was most representative of the water importation process and community stakeholder group involvement, or lack thereof, related to Los Angeles. Consequently, this potential limitation was unlikely to hurt the dependability of the present study's outcomes.

It is almost certain that there are regions of the world where the present study's research findings cannot be generalized. For instance, a large metropolitan community that is unable to import water from an external source would be less likely to benefit from the present research. The inability to generalize findings of this research on a universal basis does not detract from its importance.

The biases that may have influenced the present study's outcomes included the following:

- Los Angeles water resources managers' biases and institutional barriers, including managers' ability and willingness to engage in and sustain participative collaboration with community stakeholders and advocacy groups;
- interviewees' potential political bias against the water resources management policy directions of policy makers; and
- interviewees' potentially limited water resources experience and self-promotion, which might have limited interviewees' responses and skewed study responses.

The interview questions were designed to avoid these biases. Additionally, I did not include political questions in order to address these limitations.

Significance

The significance of this study lies in identifying potential contributions that advance knowledge in the discipline. The discipline of public policy and administration owes its foundation to public participation in the 18th century with President Thomas Jefferson (1743–1826) and was strengthened in the 19th century by President Woodrow Wilson (1856–1924), who was known as the father of public administration, and who also believed in the then-progressive movement's notion of returning power to ordinary people via initiatives and recall elections (Burke, 2001; Krutz et al., 2019). Public participation, in the context of this study, evokes and implies a deliberative democratic

process whereby the public and grassroots NGOs and citizen stakeholders participate in making sustainable water resources management decisions for Los Angeles that affect their quality of life. Knowledge may be advanced in the public policy and administration discipline by grounding the present research in the discipline's history and traditions.

The present study focused on public participation in civic and democratic debates over issues involving water resource management in Los Angeles that impacted people's quality of life. By focusing on public participation and highlighting the importance of people being able to contribute meaningfully to the decision-making processes in their community, this study may advance practice and policy. Another potential contribution of the study is toward increased awareness regarding participative, integrated, and adaptive water management programs and policies in Los Angeles, which may lead to positive social change. The contributors who advance knowledge in this discipline are the individual stakeholders, stakeholder groups, advocacy coalitions, nonprofit organizations, water resources managers, administrators, and policy makers in Los Angeles.

This study may expand understanding in a manner leading to social change by enhancing public awareness of public participation and exploring how public participation in water resources planning could be a catalyst for social change in Los Angeles. In the context of Los Angeles resource management, this study may support the achievement of an enhanced ability to develop and sustain effective collaboration between the public, community activists, and municipal leadership, which could serve as a model in the literature for public policy and municipal administration.

This study may shed light on the grassroots ability of the people to pick up from where the Los Angeles water agencies stopped addressing—or became unable to adequately address—local and regional water resources needs in a participative, collaborative, and inclusive partnership manner. For example, consider the formation of the Los Angeles and San Gabriel Rivers Watershed Council emulated by other communities. During the 1990s, water agencies in the Los Angeles region did not share information among themselves or the public (Council for Watershed Health, 2015). Therefore, in 1996, the Los Angeles and San Gabriel Rivers Watershed Council, a citizen-stakeholder coalition that is now known as the Council for Watershed Health, was formed to figure out the best way to improve communications so that a comprehensive watershed management planning work could start (Council for Watershed Health, 2015). In another example of social change resulting from public participation in Los Angeles's water resources planning, the early and continuous involvement of community leaders, citizen-stakeholder coalitions, agencies, and the private sector led to the formation of the cornerstone of the City of Los Angeles's integrated planning for its wastewater program, also called the One Water LA Program. The early and continuous involvement of the public in Los Angeles Integrated Resources Planning was in part responsible for (a) winning the USEPA's water quality award; (b) winning other awards; and (c) earning public support and approval of a $500 million Proposition "0" for implementing sustainable stormwater quality improvement projects in Los Angeles (City of Los Angeles Integrated Plan for the Wastewater Program, 2001; One Water LA Program, 2018).

Summary

In Chapter 1, I presented an overview of the study, stating the problem that was addressed and why this study was important. This chapter's main points included the purpose statement, in which I sought to explain that qualitative research was the process by which the research question was answered (Simon, 2011). The research question reflected the nature of the study, which was conducted using a qualitative research approach. Because the research topic is of particular interest to researcher practitioners, it is expected to contribute to the profession's advancement (Brause, 1999).

In Chapter 1, I introduced the research and presented the relevant background information, the problem statement, and the key objectives. Also, I provided the research question that served as the focus of the research as a whole, and a brief description of gaps in the literature that demonstrated why the research was needed. Details of the literature review are provided in Chapter 2.

Chapter 2: Literature Review

Through this qualitative study, I aimed to explore and understand the role of the public in participating and collaborating with Los Angeles water resources agencies and policymakers to find a lasting, reliable solution for Los Angeles's limited water resources that would render the area less dependent on imported water supply from other regions. There is scant literature on the best way to create policy while considering the people's voice (Fitzgerald et al., 2016). A review of the scant literature available portrays public participation as a key component in policy decision making. Nevertheless, the decision-making process is often driven not by the people, but by other stakeholders such as experts, institutions, and governing bodies (Fitzgerald et al., 2016). The question, then, is to what extent public participation in public debate issues and decision-making processes such as those of Los Angeles water resources management makes a difference in shaping public water infrastructure projects and policy outcomes.

A concise synopsis of the current literature that established the problem's relevance includes a summary of public engagement, water resources, and watershed planning from the U.S. Environmental Protection Agency (U.S. EPA, 2006). The synopsis also includes recent case studies on how ACF theory guided this research on water, climate change, and environmental policy issues (Pierce et al., 2016; Weible & Sabatier, as cited in Fischer et al., 2006).

Past researchers have sought to evaluate sustainability related to water resource planning and infrastructure development; however, successfully implementing such innovations remains an understudied topic in the research literature (Kiparsky et al.,

2016). In part, this is because the successful adoption of such innovations relies heavily upon an informed public's formal cooperation and assistance (Kiparsky et al., 2016). In Los Angeles, participatory, collaborative, sustainable, integrated, and adaptive water resources regional planning and decision-making processes are emerging and transitioning phenomena (Antos, 2016). The emerging and transitioning conditions also account for the limited research work in the literature on Los Angeles water resources management efforts. Particularly, there is a gap in the relevant literature as no known studies have analyzed public participation in Los Angeles water resources management based on ACF theory, concepts, and principles, as I sought to do in this research. This gap in the literature represented a critical objective of the present research.

The limited public participation literature in this area includes sources associated with the emerging and transitioning state required IRWM programs in Los Angeles and other parts of California. Mandated by the 2002 Regional Water Management Planning Act (SB 1672) through the California State DWR, the IRWM Programs are intended to (a) be participative and collaborative efforts for identifying and implementing water management solutions on a regional scale; and (b) integrate, implement, and adapt water management solutions for the regions (Pincetl et al., 2016). The presence of significant gaps in the literature is interpreted as suggesting a field relatively open to discoveries. The absence of research suggests a potentially significant opportunity to contribute to the development of the literature on this topic, establishing the problem’s relevance to the present study.

In this chapter, I stated my literature search strategy, thoroughly addressed the current research on public participation in Los Angeles water resources management, and discussed the theoretical framework, explaining why the ACF theory best supported the direction of this qualitative case study.

Literature Search Strategy

My strategy for conducting a comprehensive literature search involved using a wide range of library databases, search engines, articles, books, and websites. I used research databases from universities and other higher learning institutions, especially the Walden University Library, including EBSCOhost, Thoreau, Business Source Complete, and ABI/INFORM Complete (Walden University Library, 2018). I also acquired literature from the City of Los Angeles and Google Scholar.

To determine key search terms and combinations of search terms, I examined keywords from relevant peer-reviewed articles. Keywords identified in this manner included *public participation*, *citizen stakeholder*, *civic engagement*, *water resource planning*, *California water crises*, *water management in Los Angeles and California*, *environmental policy development*, *community involvement*, *consensus processes*, *collaborative management*, and *stakeholders*.

I followed an iterative search process to ensure the inclusion and consideration of relevant studies, terms, and databases to identify germane scholarship. I incorporated key themes, findings, and conceptual elements relevant to the current study whenever possible. The iterative search process also included breaking down the present research according to its basic components. As an illustration, the literature review was broadened

to focus on the general topic of public participation instead of public participation in the relatively unique context of water resources management in Los Angeles. In this way, the present study may significantly benefit other researchers' efforts in this area. During the iterative search process, the following key terms, keywords, and topics were used, primarily in the Walden University and Google Scholar databases: *public participation*, *civic and/or community engagement*, *regional water planning*, *water resource planning*, *natural resource scarcities*, *collaborative decision making*, *citizen stakeholder process*, and *integrated water resources management*. Additionally, the iterative search process included evaluating terms in the specific context of the Los Angeles water resources management region, focusing on ACF theory, which formed the foundation of the present study. At this stage of the iterative search process, the key terms used in the Walden Library and Google Scholar databases included *water*, *water resources planning*, *regional planning*, *water supply*, *water shortage*, *integrated water planning*, *citizen participation in water planning*, *community engagement*, *watershed management*, *Los Angeles water planning*, *Los Angeles drought*, *Los Angeles water conservation*, *water importation*, *water recycling and reclamation efforts in Los Angeles*, *One Water LA program*, *Los Angeles Integrated water planning*, *integrated water resources management*, *water resiliency planning*, and *sustainable and dependable water for Los Angeles.*

In the final stage of this comprehensive iterative literature review, specific emphasis was afforded to suggestions by colleagues, professors, and subject matter experts whose interests overlapped with the focus of the present research. Further,

research materials provided or recommended at professional meetings, seminars, classes, and conferences were evaluated, as in cases in which there was little current research and few, if any, dissertations.

Theoretical Foundation

The ACF theory provided the theoretical foundation for the present study because its concepts grounded the research. While reviewing the literature on individual or group participation in water resources planning and management, I found that ACF theory concepts were suitable for governing the exploration of this study. For instance, ACF theory indicates that public participation can relate to what motivates stakeholder groups to form, sustain, and influence water resources planning while working through existing institutional arrangements to change institutions positively. Moreover, advocacy and participatory worldview research can be transformative by leading to positive action agendas for reforming and changing participants' lives, institutions, communities in which individuals work or live, and the researcher's life (Creswell & Creswell, 2018).

The ACF theory originated in the work of Sabatier (1991) in collaboration with Jenkins-Smith (Sabatier & Jenkins-Smith, 1993; Weible et al., 2011). The original ACF theory was developed to respond to the need for a longer term understanding of policy changes and intergovernmental relations, as well as the need for a more realistic model of the individual rooted in psychology than in microeconomics (Weible et al., 2011). This enabled the understanding of the present research question in terms of the historical and cultural contexts under which the ACF theory was developed and modified (Sabatier & Weible, 2014; Shafritz et al., 2016).

According to Sabatier and Weible (2014), the historical context of ACF theory is rooted in several seminal works, which together constitute the major theoretical propositions of ACF theory:

- Pressman and Wildasky (1973) and Majone (1980) highlighted the importance of causal theory and belief theory in public policy.
- Heclo (1974, 1978) addressed policy-oriented learning, integration of systems, and actor-based systems.
- Meltsner (1976) and Mazur (1981) illustrated the critical role of a scientific and technical data analyst in political debates.
- Hjern et al, (1978) and Hjern and Porter (1981) offered a bottom-up approach.
- Simon (1957, 1985) provided a model of the individual based on the limited capacity to process information and the tendency to distort interpretations based on presuppositions.

These aspects of the propositions of ACF theory lay the criteria for (a) exploring and evaluating the roles and effectiveness of public participation in Los Angeles water resources management, (b) answering the central question of the present research, and (c) ensuring appropriate application of the theory. In this regard, the ACF theoretical framework evaluation criteria included advocacy coalition interaction, learning, capacity building, policy change, and actors sharing their beliefs and coordinating actions to influence public policy. I sought to determine how the ACF theoretical evaluation criteria applied to Los Angeles water resources management and decision-making processes.

How Advocacy Coalition Framework Theory Has Been Applied Previously in Ways Similar to the Current Study

ACF theory's concepts of advocacy coalition and democracy in community institutions have been extended by recent and seminal work in public policy and administration. Examples include the works of Putnam (1993), Berry et al. (1993), and Musso and Weare (2017) on civic engagement, democracy, and ways of spurring greater citizen participation to develop a deeper sense of community, stronger trust in government officials, and greater confidence in the decision-making system. Other seminal works that contributed to the extension of ACF theoretical concepts suggest the following:

- The health of a democratic society depends on the quality of involvement of its private citizens.
- Increasing collaboration helps people to (a) understand information better, (b) become empowered to solve problems with new ideas, (c) generate greater consensus, and (d) generate a voice in government that leads to long-term support for public policy recommendations (Bekkers, 2004; Brody et al., 2003; Buckwalter et al.,1993; Fiskaa, 2005; Irvin & Stansbury, 2004; Kathi & Cooper, 2005; Kunde,1994).

Further, Bingham, et al, (2005) proposed new governance that retains legitimacy by involving people in a process by which they participate in their government's work or risk the government losing legitimacy. Lack of active participation by the people in government decision-making processes deprives officials of valuable input and

compromises government legitimacy (Walters et al., 2000). Together, the ACF and the modern seminal works that extended it formed an appropriate foundational framework for this qualitative research.

Regarding the rationale and how ACF theory relates to the present study, ACF theory and this research shared key concepts related to encouraging advocacy coalition formation, encouraging policy learning and changes, and using scientific research and data analysis to drive policy decisions. The ACF theory concepts of advocacy coalition interaction, learning, policy changes, and actors sharing their beliefs and coordinating actions to influence public policy are evident and applicable to public participation in Los Angeles's integrated regional water resources planning process. For instance, the Los Angeles coalition formation actors began conversations to form a coalition that later became an effective grassroots citizen stakeholder watershed council for influencing water policies in Los Angeles, in response to Los Angeles water resources agencies that would not share information among themselves or with the public (Council for Watershed Health, 2015; Green, 2007).

The ACF's policy-oriented emphasis on refining individuals' belief systems and collectives to influence policy changes is also applicable to the Los Angeles experience. For example, from the late 1990s through the mid-2000s, over 500 individual and stakeholder groups collaborated with water resources agencies as part of the Los Angeles Integrated Resources Program (IRP) to effectively stop duplicative planning processes for yielding single-purpose plans for each water service functions and replacing them with a holistic, collaborative approach that saved taxpayers costs and won the USEPA Water

award (City of Los Angeles, 2006). These effective applications of ACF theoretical concepts to public participation in Los Angeles water resources management provided the rationale for choosing ACF theory as an appropriate foundational framework for this qualitative research, particularly related to addressing the key objective of the research question.

Studies Related to the Constructs of Interest and Chosen Methodology

Other studies that related to the construct of interest, which consists of public participation as governed by ACF theory, and the chosen participation evaluation methods that are consistent with the study's scope; are found in key documents. These key documents include the European Water Framework Directive and the U.S. Clean Water Act, which require public and stakeholder participation in water resources management and form the basis for three methods of evaluating public participation (Carr et al., 2012). The three methods of exploring and evaluating public participation in water resources management are presented in Table 1 and consist of the following:

- process evaluation of the quality of the participation process to determine if the process is legitimate and promotes equal power between participants;
- intermediary outcome evaluation that assesses the achievement of nontangible outcomes of trust and communication, as well as assessing short-to-medium-term tangible outcomes such as agreements and institutional change; and
- resource management outcome evaluation that assesses the achievement of resource management changes, such as water quality improvements (Carr et al., 2012).

Table 1

Three Methods of Evaluation and Their Criteria

Process evaluation	Intermediary outcome evaluation	Resource management outcome evaluation
Accountability	Development of social capital: interaction and network development and trust	Ecological improvement
Cost effectiveness	Products from the process: agreements, end to a stalemate, innovation, institutional change, shared knowledge, and information	Economic improvement
Deadlines and milestones		Human health and wellbeing improvement
Facilitation		Implementation of an accepted plan
Knowledge inclusion		Reduction in conflict/increased harmony
Legitimacy		
Power		

Note. Adapted from an actual table originally printed in Carr et al. (2012).

These three methods were combined with ACF theory criteria in evaluating the Los Angeles water resources and adaptive management approaches. Although process evaluation consists of the primary component of the existing literature, it may not necessarily indicate whether a participation program enhances water resources planning and management. Resource management outcome evaluation is challenging because resource changes often emerge beyond the typical period covered by an evaluation and because changes cannot always entirely be related to participation activities. Intermediary

outcome evaluation has been given less attention than process evaluation. However, intermediary outcome evaluation can identify (a) some real achievements and (b) side benefits that emerge through participation. As a result, the intermediary outcome evaluation should play a more important role in evaluating water resources management participation (Carr et al., 2012). Intermediary outcome evaluation was recommended for this research study.

Literature Review

History of Civic Engagement Advocacy and Democracy: Origin of Public Participation and Public Administration

To promote clarity and ease of understanding in the review and synthesis of studies related to the key concepts under investigation in the present research and produce a description of what is known or controversial and what remains to be studied, I have organized the literature review's main findings in a historical, chronological, and narrative manner. However, only a brief mention and summary of the periods of individual and community involvement in government is described because an exhaustive discussion of the history is not intended. In the United States, public participation began in the 18th century with President Thomas Jefferson (1743 -1826), who believed in participatory democracy, and strengthened in the 19th century by President Woodrow Wilson (1856 – 1924), also known as the father of public administration, who believed in the then progressive movement's notion of returning power to the ordinary people via initiatives and recall elections (Burke, 2001; Krutz et al., 2019). During their time in

office, both Presidents Thomas Jefferson and Woodrow Wilson supported citizen participation and influence (Burke, 2001; Krutz et al., 2019).

The Hydraulic Era and Public Participation in Los Angeles Water Resources Management

Support for public participation and influence that started during the times of Presidents Thomas Jefferson and Woodrow Wilson waned during the early 1900s when the Hydraulic era began. Regional and interregional infrastructure approaches were given a boost, while corresponding boost was not given to public participation and influence, or the environment. The Hydraulic era, which began in the 1900s and ended in the 1970s, was the period when rapid growth would quickly require a shift in California water and flood policy from local to interregional projects, giving rise to regional governance, which is another public policy and environmental sustainability concept that this research study seeks to highlight and bring to public awareness. With the emergence of interregional projects that could manage water resources and water supply inter-regionally and over long distances, Los Angeles and San Francisco decided to secure water to grow and prosper over the next 100 years (Peden, 2016). Then, by the 1900s, Los Angeles had exhausted local water supply sources from the Los Angeles River and its tributaries. As a result, in 1913, Los Angeles built the Owens valley aqueduct, 240 miles away (LADWP, n.d.). The aqueduct was later extended to the Mono Basin, as the Los Angeles population grew from 500,000 in the 1920s to 1.2 million in the 1930s (Peden, 2016). For Los Angeles, the end of the hydraulic era in the 1970s coincided with decades of water pumping and diversions from the Owens Valley to Los Angeles that

followed the Owens Valley aqueduct's construction in 1913. The decades of water pumping and diversion contributed to (a) the diminishing of the Owens Lake and lakebed to toxic dust storm; (b) the diminishing of the water flow to Mono Lake; (c) the imperiling of the wildlife and Owens economy to scattered agriculture, ranching, and tourism; and (d) the setting of the stage for the recognition of public trust as a fundamental limit on the exercise of water rights (Peden, 2016).

Public Participation on the Rise: Hydraulic Era Ends and Environmental Movement Era Begins

With increasing concern over environmental impacts, ecosystem damage, and economic cost, water resources management shifted from a "hard path," which relies on hydraulic infrastructure, to a "soft path" – the focus of the present study – that considers participative, collaborative, and efficient water management that is supported by the United Nations's Integrated Water Resources Management (IWRM) approach to managing water from an integrated and holistic perspective, both in natural water state and in balancing competing demands for water, to achieve long-term water sustainability (Wang, 2017).

Beginning in the late 1960s and through the early 1970s, the environmental movement led members of Congress and the California State legislature to enact a series of landmark environmental statutes, including the Clean Water Act that requires public participation (Hanak et al., 2011; Carr et al., 2012; Peden, 2016). The environmental movement and awareness era's outcomes included the passage of the Clean Water Act and implementation of the National Pollutants Discharge and Elimination System

(NPDES) permitting process for publicly owned treatment works (POTW), Safe Drinking Water Act, National Environmental Policy Act, the creation of United States Environmental Protection Agency, and the passage of the corresponding State of California water and environmental laws, regulations, and agencies. The federal government required collaboration and community/public participation in federally funded projects. The environmental movement and awareness era is also known as the post hydraulic era. The Federal budget deficit impacted funding for major water diversion infrastructure projects and limited their construction.

In the United States, the 1970s became “watershed years for citizen participation” (Glazer et al., 2006, p. 180). The United States government required citizen participation provisions in many 1970s federal programs and “maximum feasible participation” in local government programs requiring federal funding (Glazer et al., 2006, p. 180; Carr et al., 2012). The environmental movement significantly impacted water policy by facilitating a change in the environment's legal status from a potential consideration to an actual stakeholder (Hanak et al., 2011; Peden, 2016). As a result, water planning authorities were legally compelled to consider their decisions' environmental impact (Peden, 2016). The environmental movement is significantly larger than other social movements, such as the civil rights movement, the peace movement, and the more recent Occupy movement (Brulle, n.d.; Hanak et al., 2011; Peden, 2016). Public participation in government increased during Presidents Thomas Jefferson and Woodrow Wilson and the environmental movement and awareness era.

Public Participation on the Decline

Things began to change in the1980s when increasing federal budget deficits, ongoing government transformation, and rising debt loads ultimately proved unsustainable (Stone, 2016). The rising budget constraints and other conditions resulted in sharp shifts in public policy efforts that sought to squelch federal funding of large water projects and weaken compliance to public participation requirements at the local levels (Brody et al., 2003; Stone, 2016). Local governments resorted to including legal public comment and/or a public hearing as part of the budget or other processes to meet public participation requirements (Brody et al., 2003; Rosener, 1982;). The process of using public comments and hearing to meet public participation requirements is argued to be ineffective and obsolete because it suggests that decision-makers do not take their cues from the public but the staff (Brody et al., 2003; Rosener, 1982;).The declined public participation showed that public participation exercised little influence and power over government decision-making. Moreover, most of the public participation that occurred were failures – mere tokenism (Heller, 2003; Kitchen & Whitney, 2004); costly, offered no proof of benefits, and lacked clear steps or guides to those seeking more participation in government (Berry et al., 1993, p. 212). Public participation declined at all levels of government during this period.

The Need for the Present Research

The decline in public participation suggested fewer citizen stakeholders collaborated with governments to facilitate more community benefits-oriented water resources planning and infrastructure. The time is now for the present research, which

will seek to understand the role, depth, and impact of public participation in Los Angeles water resources planning and promote more public participation awareness, which would be a positive social change. However, this present research is not intended to be an empirical study or an exhaustive study, but it would provide fundamental groundwork and motivation for a future research.

The Courts' and Natural Events' Impact on Public Participation

In the 1980s and 1990s, significant public participation events, in the form of court decisions, took place in California that would impact Los Angeles's water resources effort and experience (Hanak et al., 2011). In 1983, the California Supreme Court amended Los Angeles's water rights to protect Mono Lake and its tributary creeks - one of the places where Los Angeles imports its water supply (LADWP. 2013; Hanak et al., 2011). Also, 1994 was the first time that the State of California integrated its Water Code, Fish and Game Code, and the common law of public trust (Kiparsky, 2014) that resulted in the emergence of California's regional concept integrated water resources planning and management. In 2014, the people of California embraced sustainable water management at the state, regional, and local levels, but not because of improved public participation, but due to natural events, particularly climate change (Hanak et al., 2011); and the 5 consecutive years of drought, from 2012 to 2016. For example, at the state level, the drought brought about increased attention to California's water woes and motivated California Governor Brown and the State Legislators to formally embrace a sustainable water resource management approach (Peden, 2016). As a result, California enacted its first sustainable water resources management law in 2014. At the local level,

the drought motivated the City of Los Angeles to enter the second phase of its integrated water resources planning effort, formally referred to as the One Water LA Program (One Water LA Program, 2015). A key objective of the One Water LA Program was to achieve enhanced public participation and integrated planning across all water service functions of drinking water, wastewater (sewage), and stormwater; and avoid producing duplicative and cost-prohibitive independent plans for each water service function. The One Water LA Program includes developing one regional plan affecting drinking water, wastewater, stormwater (watershed management), water conservation, water reuse, and water recycling with public participation by citizen stakeholders at the center (One Water LA Program, 2015). Thus, citizen stakeholders' public participation is now on the rebound-increasingly accepted and gaining strength in Los Angeles's water resources planning and water infrastructure development decisions.

The tracing of Los Angeles's water resource planning process from historical and chronological perspectives had many benefits. The historical emphasis provided a necessary analytic foundation, without which it would be difficult to grasp the full significance of the present study or interpret its suggested findings reliably. The historical perspective enabled the four preliminary themes that appeared from the literature review to be evidenced. The four preliminary or *prior* themes will be further developed or clarified by the present research findings. The first of the four preliminary themes is the absence of public participation during the early stages of Los Angeles's water resource planning effort (LADWP, 2013). A second theme, evidenced during this same period, is the lack of consideration of the sustainable and integrated principle of a balanced

approach to water resources planning (Hanak et al., 2011)—one that emphasizes the economy, the ecology, and social equity principles that consist of the 3 Es of sustainability as declared by the United Nations. A third theme was the capacity for progress over time; for example, in Los Angeles, water authorities appeared willing and able to learn from the mistakes made by their predecessors, and from the 1990s through 2010s, there have been increased emphasis on integrated planning and a renewed concern for the environment (Council for Watershed Health, 2015; One Water LA Program, 2015, Water LA Report, 2018). The fourth and the most important theme is the increased emphasis on collaborative planning and decision-making, as recognized at multiple levels, including the courts, government and public sector planners, citizen stakeholders, and nonprofit organizations. This includes a heightened participative role for individual stakeholders, private sector organizations, stakeholder organizations, and government agencies in the Los Angeles water resources planning process (Green, 2007).

Summary

To ensure that the present study benefitted from a wide variety of informative and relevant sources, I conducted a literature review using a strategic process. I expanded the search process to include more and diverse source materials, key terms, topics, websites, and search engines.

I traced Los Angeles's water resource planning process from historical and chronological perspectives to highlight the literature search results. The historical emphasis provided this study with an analytic foundation, without which it would be difficult to grasp the full significance of the present study or interpret its suggested

findings reliably. The historical perspective enabled the four themes discussed in the literature review to be presented. As a result, this literature review provided further evidence of the critical importance of the present research, emphasizing communal and collaborative decision-making in water resource planning. Chapter 3 is a detailed discussion regarding the methodology, instrument, data gathering, and data analysis procedures in this study on communal and collaborative water resources management in Los Angeles.

Chapter 3: Research Method

The purpose of this qualitative study was to explore and understand the importance, effectiveness, and outcomes of public participation in Los Angeles water resources management, including water resources infrastructure planning and related public policy decision-making processes. The research methodology for this study was a qualitative case study using semistructured interviews with a combination of stakeholders and actors, individuals, stakeholders' groups or coalitions, water resources managers, administrators, and policymakers, to gauge their perceptions of the role and effectiveness of public participation in the Los Angeles water resources management process. As a preview, the rest of this chapter contains major sections addressing the following: (a) research design and rationale; (b) role of the researcher; (c) methodology, consisting of participant selection, the instruments for data collection, and data analysis; (d) issues of trustworthiness; and (e) ethical procedures.

Research Design and Rationale

The research design was selected to address the research question for the present study, which was as follows: What are the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management? In other words, how significant is public participation in Los Angeles water resources management outcomes? This implied an inquiry into whether public participation can influence and achieve positive changes in Los Angeles water resources management and the associated decision-making processes. Using the selected research design, I was able to address the central concept of public participation in the phenomenon of Los Angeles water resources

management, including water resources infrastructure planning and policy decision-making processes.

The research tradition identified and chosen for the present research was qualitative case study. The rationale for the choice of qualitative case study design was derived logically from the consideration that chances of Los Angeles-specific solutions and change to its perennial water scarcity problem might be enhanced by exploring public participation in the water resources management process. The purpose of exploring, evaluating, and understanding participatory programs was to assess whether the objectives were being achieved and to identify how the programs could be improved, such as by enhancing resource management and involving individuals and groups in a democratic way (Carr et al., 2012). A qualitative case study research design was chosen because it provided flexibility and created the opportunity to consider judgments and make connections to the social world (Virgo & de Chernatony, 2005). Moreover, qualitative research is helpful in exploring and understanding perceptions (Jackson et al., 2007), which I sought to do in the present research.

The data sources for this qualitative case study were interviews, focus group discussions, and my researcher journal. It was expected that the triangulation that occurred among the interviews, focus group discussions, and my researcher journal, was sufficient for this research because it is typically sufficient for a qualitative study (Keen et al., 2018; Rubin & Rubin, 2012).

The qualitative research design is practical and flexible in helping practitioners address problems in the field. I explored and interpreted participants' perceptions and

experiences regarding a practical problem in a constructivist or descriptive manner. A qualitative study was conducted in the most naturalistic setting possible. More than one data collection source is needed when using a qualitative design; sources included interviews and focus group discussions. I am aware that some scholars, critical of the qualitative approach, have expressed concerns regarding "method slurring" or methodological "mycology" when research is based on a qualitative approach and not based on a philosophical tradition such as phenomenology or grounded theory approaches (Kahlke, 2014).

The qualitative design that was chosen for this research was not based merely on the "interpretivism" paradigm from which most qualitative research emerges (Cohen & Crabtree, 2006), but also on the interplay and tension that are possible between "interpretive" and "positivist" paradigms (Bryman, 2004). It was also based on the understanding that when doing qualitative research, one need not a particular paradigm or the epistemological, ontological, and methodological underpinnings of a variety of paradigms (Cohen & Crabtree, 2006), and instead identify with a pragmatic or blended approach that recognizes a theme. The selection of qualitative design that blends and straddles interpretivism and positivist paradigms was supported by Bryman (2004), Morgan (2007), and others, who argued for a more pragmatic approach—one that is disentangled from the entrapments of the paradigm debate, one that recognizes themes, and one that sees the benefits of a blended approach. For these reasons, a qualitative case study was chosen for this research, as the research question that I sought to explore could

be answered in a straightforward way without having to frame the research within an explicit philosophical, epistemological, or ontological tradition.

Role of the Researcher

My role as the researcher was that of an observer and conductor of semistructured interviews and was not that of a participant or observer-participant. During participant interviews, I asked questions and recorded information that I observed or that was provided by participants in response to my questions. My role included developing the instrument for data collection, identifying and selecting participants, conducting semistructured interviews, and developing a data analysis plan.

Under normal circumstances, I would have conducted all semistructured interviews and focus group discussions in person at an agreed-upon location convenient to the participant other than my work location. However, given the lockdowns and other emergency provisions due to the COVID-19 pandemic, all of the semistructured interviews and focus group discussions were conducted and audio recorded online. The local health directives were followed to ensure maximum safety of the participants and myself due to the pandemic. The interviews were recorded and transcribed for data analysis later.

As the researcher, I did not have personal or professional relationships with the participants. I had not worked with any participant as a supervisor, teacher, mentor, or coach, over the past 5 years. As a result, I did not have current and detailed personal and professional knowledge of the study participants that would involve a power differential that might affect participants' ability to refuse to participate.

As the researcher, I am aware that the question is not if I had researcher biases, but rather how I managed any researcher biases that I had. I managed researcher biases by being transparent in admitting them and seeking a remedy. I was not impartial regarding the potential themes, and I was not impartial to the possible research findings of the present study. Decades of formal learning on this topic as a civil engineer, coupled with a wealth of professional practice experience in water resources planning in Los Angeles, resulted in developing a particular perspective. This perspective may reflect a degree of bias. Even where it is possible to formally identify this perspective from an intellectual, emotional, moral, and social justice perspective, its capacity to influence the results remained intact. It was not possible to entirely remove bias from this qualitative study (Creswell, 2018). At a minimum, results were shaped by my perspective, including my beliefs, expectations, and hopes, because the qualitative study design requires a researcher to interpret themes and meanings from data (Creswell, 2018). Researcher bias did not keep me from carrying out the present research in an objective manner.

To minimize the potential impact of researcher bias, I adopted specific preventive measures. The first step in this process required identifying the most apparent, prevalent, and/or likely sources of (potential) bias, as such bias might negatively influence the study. When analyzing research data, I bracketed my personal experience and bias by not imposing them on the participants' statements and meanings. I adopted common sense measures to reduce the likelihood that researcher bias would lead to a tautological study conclusion. For instance, I believe in community planning; therefore, its impact on water resource planning in the Los Angeles region must be direct and positive. Specific

common-sense measures could be readily adapted to reduce the likelihood that tautological reasoning would lead to spurious results. One of these involved raising the bar in terms of the level, amount, and/or specific quality of evidence required before confirming any key study findings. In terms of the present study, multiple sources of evidence, as derived from interviews of citizen stakeholders and focus group sessions, were analyzed.

Methodology

Participant Selection Logic

The population for this qualitative study consisted of those individuals, stakeholder groups, Los Angeles water resources agency managers, administrators, and public officials (elected and appointed) who participated in or were knowledgeable about the water resources management challenges in Los Angeles. This study's participant inclusion criteria were broad to allow flexibility and efficiency of the research effort. However, to establish how participants were known to meet the criteria, before the interviews, I requested that the participants provide demographic information, including how long they had participated in Los Angeles's water resources planning, as well as a show of knowledge of the challenges associated with public participation in the Los Angeles water scarcity problem if I did not already have this information.

The sampling strategy indicated that the number of participants or cases for this qualitative study should be 10. The rationale for having 10 participants was that this number met the consensus average participant size for a qualitative study in public policy and administration. Based on Merriam and Tisdell (2015) and Rubin and Rubin (2012),

for Walden University's School of Public Policy and Administration, seven is the average number of participants needed to reach saturation in qualitative research. This was consistent with a sample size of up to 10 participants for the present research. However, I ended up using 19 participants to reach saturation due to the large scope of the research topic.

The analyses conducted as part of this study used data gathered from sources that included semistructured interviews and focus group discussions. Sampling strategies included the methods and procedures by which I identified and recruited potential participants. For instance, participants were identified and recruited voluntarily. No incentives were offered to participants to recruit them, other than the motivation to help Los Angeles people understand how they had been participating or not participating in water resources planning decisions that affected their quality of life. I made the participant selection decisions with supervision from my committee chair.

My participant recruitment approach was as informal and casual as possible. To recruit participants, I sought their permission by emailing them an invitation to participate and a consent form. I requested their consent through an email response. The recruited participants were required to give written and informed consent. Participants were free not to answer any questions that seemed uncomfortable or too personal. Additionally, participants were free to discontinue participation at any time. Interviews and focus group sessions were conducted when formal approval from Walden's Institutional Review Board (IRB). Permissions were not required from alternative agencies. During the participant interviews and focus group sessions, I knew that

saturation was reached when the participants' perceptions and responses and the evidence that I was seeking began to repeat.

Instrumentation

This qualitative study's data collection instrument was the interview and focus group questions as approved by the IRB. I expected each interview and focus group to involve no more than nine questions and take approximately 90 minutes (Appendix A). However, each lasted more than 90 minutes, or approximately 110 minutes and 141 minutes, respectively. The interview and focus group questions were not supplemented with an observation sheet but were audio recorded. No existing peer-reviewed secondary data were available at the study site.

I based instrument development on literature sources, as well as consultation with my dissertation committee, colleagues, and peers. I did not conduct a pilot study. Instead of a pilot study, I developed instruments that were peer reviewed to establish credibility and transferability. I shared my interview questions with a person who had the necessary qualifications to ensure that I had developed reasonably understandable and strategic questions. I knew that I had achieved the sufficiency of the researcher-produced data collection instrument to answer the research question and content credibility when feedback from my committee, colleagues, and peers got close to the responses that I sought, which was when the feedback began to repeat.

Procedures for Data Collection

The data collection instrument included interview protocols designed to address the research question. I collected the data by using the interview protocols in conducting

the interview and focus group sessions. The frequency of data collection was often as I interacted with study participants, which included online interviews and focus group sessions via GoToMeeting.com, with some participants calling via phone. The data collection duration was how long it took to complete the participant interviews and focus group sessions, which was approximately 110 and 141 minutes, respectively, over 2 weeks. Data collection focused on relevant themes, and the interview and focus group sessions were structured according to an open-ended process. This encouraged participants to share information that best suited their individual needs and/or experiences as a key benefit.

The data were recorded with the participants' permission. Audio recording was announced beforehand to avoid any surprises. The interview and focus group sessions were audio recorded, and transcribed notes were taken for the interview and focus group sessions. Recruitment did not result in too few participants, so another round of outreach to potential participants was unnecessary. Participants were free to exit the study at any time. However, that did not occur, so participant debriefing was not necessary. The recorded data will be stored in a password-protected system and renewed annually, for up to 5 years. Only me have access to the password-protected system.

Data Analysis Plan

The research data that I collected for this study connected with the research questions upon which the data collection instruments were based. Data coding was done using NVivo, a specialty qualitative data coding and analysis software that I found very easy to use, which helped me understand the data better than manual coding. Discrepant

cases were highlighted, reconfirmed with participants, and brought to the committee chairperson for further consideration. Based on the greater than expected number of interview and focus group sessions and the longer than anticipated duration of each interview and focus group session, I had a great deal of text to code and interpret. NVivo qualitative analysis software helped me to organize and manage data.

The study design influenced the procedure for coding and analyzing data for this research. As noted, the present research was purposively organized according to the structure of a qualitative study, as defined by Merriam and Tisdell (2015). At a broad level, data were analyzed in a narrative context and thematically. Initially, the analytic focus was upon identifying salient conceptual themes and patterns. The analysis at this point drew from the data gathered from the participant interview and focus group sessions. After I had identified key themes and patterns, these concepts and phenomena were clearly described.

The data contained in transcripts were analyzed through the primary use of textual analysis. At this stage of the analysis, the primary objective was to provide confirmation (and/or disconfirmation) for the conceptual findings and themes generated in the literature review. In terms of new learning generated, the study's findings were explained in detail, with an emphasis on explaining the concepts clearly.

Emerging Themes and Patterns

The research study was conceptual and emphasized the *a priori* themes that emerged from the literature review, as shown in Table 2. The *a priori* themes were used as anticipated themes. The research's primary task was to identify and interpret the

meanings and significance of the two possible sets of themes involved. Two possible themes were the anticipated themes from the literature review and themes that emerged from the analysis of the transcribed and coded data obtained from the semistructured interviews and focus group sessions. I used the *a priori* themes as preliminary codes for analyzing the data, which enabled other themes to emerge as I analyzed the data from the semistructured interviews and focus group sessions that I conducted for the present study. The *a priori* themes provided a starting point for data analysis and further demonstrated the research topic's relationship to the extant literature and the research question.

Table 2

A Priori Themes

A priori themes	Descriptions
Effectiveness	The factors or conditions that can lead to the success or failure of public participation in Los Angeles water resources management
Importance	Why public participation in Los Angeles water resources management is important
Outcomes	Evidence or lack of evidence of public participation impact in Los Angeles water resources management
Roles	The parts that the public can or ought to play in Los Angeles water resources management, including voluntary or obligatory rights, responsibilities, and actions

Issues of Trustworthiness, Credibility, Saturation, Transferability, and Confirmability

Appropriate strategies to establish credibility included triangulation between the interview and the focus group responses as suitable for a qualitative study, and the

prolonged contact of hours and days, instead of the prolonged engagement of weeks and months with participants. The strategies to establish credibility consisted of member checks that include participants' confirmation of their responses, test veracity of the data, analytic categories (e.g., codes), interpretations, and conclusions. Saturation was reached when the understanding being sought began to repeat or when the same stories, themes, issues, and topics emerged from the interview and focus group session participants (Boyce & Neale, 2006). The appropriate strategies used to establish transferability included a full description that specified the minimum elements necessary to re-create findings. The strategy also included a detailed description of the participants, procedures, and context to enable others to judge the similarity to possible application sites. The research findings are available to other areas of comparable contexts, situations, and people - conditions similar enough to make findings applicable, to use as they see fit, as another strategy for achieving transferability. The appropriate strategies used to establish dependability included audit trails related to the recording of the following: raw data; process and products of data reduction, analysis, and synthesis; methodological process notes; reflexive notes; and instrument development techniques. Dependability was also established by triangulation to account for instability and change within the natural context. Also, naturally occurring phenomena were documented to establish stability and change. The appropriate strategies used to establish confirmability related authenticating the internal coherence of data, findings, interpretations, and recommendations, included documenting the researcher as an instrument and potential bias sources. The

confirmability strategies included keeping reflexive journals that consist of the researcher's notes and the documentation of my thinking throughout the research process.

Ethical Procedures

To avoid potential ethical dilemmas, agreements to gain access to participants and data were not necessary from the participant and the institutions that own the data. However, access to the data was gained from publicly available sources as approved by —the IRB (Rudestam & Newton, 2015). Also, actual documents that described how human participants were treated were included in the IRB application. There was not a need to obtain institutional permissions, as approved by the IRB. In the IRB application, I described the ethical concerns associated with recruitment materials, processes, and procedures, as well as a plan to address them. I also included ethical concerns related to data collection and intervention activities in the IRB application, including participants refusing participation, participant early withdrawal, response to anticipated adverse events, and a plan to address them. However, they did not occur. All results obtained through interviews were held strictly confidential.

Potential ethical concerns were also minimized by adhering to standardized procedures transparently and systematically. As one illustration, informed consent was required from all selected participants for the final study sample (Rudestam & Newton, 2015). Although not related to sampling, per se, study participants benefited from clear instructions and an explanation of the purpose of the study (O'Sullivan et al., 2008). In this regard, every participant was treated equitably with respect, justice, and beneficence (O'Sullivan et al., 2008). Other potential ethical issues were minimized by (a)

considering the impacts of sampling instruments on vulnerable and marginalized populations; (b) respecting varying cultures; and (c) by avoiding framing potentially distressing personal issues in a judgmental, non-inclusive, dismissive, and insensitive manner (Walden University IRB, 2013). Ultimately, ethical issues were minimized by upholding the US Constitution's democratic principle of inalienable rights, particularly when marginalized and vulnerable populations are participating; and by holding paramount the health, safety, and welfare of the public (American Society of Professional Engineers [ASCE], 2016; National Society of Professional Engineers [NSPE], 2016)

Summary

In summary, this was a qualitative case study. The methodology included semistructured interviews of participants and focus group sessions conducted online, audio-recorded, transcribed, and coded using NVivo software. Then data were analyzed, and emerging themes and patterns were identified. At each stage of the research process, concerted steps were taken to enhance the likelihood that the study would achieve its primary objectives. As a result, new learning and knowledge were generated in terms of the research and actual practice, with detailed results presented in Chapter 4.

Chapter 4: Results

The purpose of this qualitative case study was to explore and understand, from the participant's perspective, the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management to address Los Angeles's challenge of providing a reliable water supply while lessening dependence on imported water supply. The research question was as follows: What are the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management? In the remainder of this chapter, I present data collection, data analysis, and the results that will be the basis for conclusions and recommendations in Chapter 5.

Research Setting

The coronavirus pandemic meant stress, unemployment, or working from home for many Americans. This made safety, health, and outright survival of utmost importance to participants. This was a shared challenge to data collection. The national political divide of the last 4 years, particularly the political tension and trauma from the November 3, 2020 national election, was only a month away from the start of data collection for this study. Both the data collection during December 2020 and data analysis during January 2021 and February 2021 were conducted against the backdrop of raging, resurging coronavirus pandemic. Additionally, the Washington, DC demonstration of January 6, 2021 and the racial justice demonstrations of the previous 9 months were still fresh experiences for all participants, which brought heightened attention to the discussion of equity and the social and environmental justice issues that were central to the present study. These events may also have influenced participants'

experiences at the time of the study and their responses to climate change and drought impacts on water policy and mobilizing the base and grassroots nonprofit organizations to participate in policy resources planning meetings. Despite the unique challenges, I was able to collect valuable data to draw meaningful conclusions.

Demographics

The following participant demographics and characteristics were relevant to the study:

- Community stakeholders included one Hispanic male, two Caucasian females, one Caucasian male, and one African American female.
- Water agency managers/engineering consultants included three African American males, two Asian American males, two Middle Eastern American males, three Caucasian males, and one Hispanic female.
- Policymakers included one mixed-race (Black, White, and indigenous) female and two Caucasian males.

Among the study's 19 participants, one was mixed race (Black, White, and indigenous), two were Hispanic, eight were Caucasian, four were African American, two were Asian American, and two were Middle Eastern American. Seven participated in online individual semistructured interviews, and 12 participated in one of the three online focus group sessions that I conducted.

Data Collection

Number of Participants From Whom Each Type of Data Was Collected

I collected data from the following two sources: (a) virtual real-time individual semistructured interviews (Source 1) with seven participants and (b) focus group discussion sessions (Source 2) with 12 participants. The 12 focus group participants were NGO managers and leaders, water agency managers and consultants, and staff of the Mayor's Office and a Council Office. I conducted both the interviews and the focus group sessions to gather the participants' experiences on Los Angeles water resources management, with which all of the participants were familiar.

All 19 participants were asked preliminary questions about the challenges facing Los Angeles water resources management and the outcomes and roles of public participation in addressing these challenges. After that, the focus group participants were asked questions concerning the community, nonprofit, and individual participation roles and outcomes. The remaining seven participants were individually interviewed and asked questions regarding institutional decision-making and policy-making processes and practices. With the participants' permission, the online interviews and focus group participants' responses were automatically audio recorded and transcribed using the GoToMeeting.com system. The audio recording was announced beforehand, as indicated in the participant agreement.

Location and Duration of Data Collection

The three focus group sessions and the seven individual interviews were conducted online. The interviews and focus group sessions were conducted within a 2-

week duration, from December 5, 2020 through December 23, 2020. Both data audio recording and transcription were automatically done online using the GoToMeeting.com system for the individual interviews and focus group discussion sessions. The average time duration for the seven individual interviews was 110 minutes or approximately 2 hours, while the average time duration for the focus group sessions was 141 minutes or approximately 2.5 hours.

The participants were familiar and experienced with Los Angeles water resources management issues and challenges as participating public water agency managers or policymakers. Each participant had specific responsibilities and perspectives on the questions asked, which provided the needed diversity of opinions while at the same time not affecting their responses or the result interpretation.

There were a few minor variations from the data collection plan. For instance, instead of Zoom, GoToMeeting.com was used to audio record and transcribe the individual interviews and focus group sessions. Both the interviews and focus group sessions lasted longer than the estimated 90 minutes. The interviews and focus group sessions were completed within 2 weeks, compared to the estimated duration of 2 months. Instead of recruitment resulting in fewer than the expected 10 participants, nine more participants were recruited to reach saturation, for a total of 19 participants, of which seven participants were individually interviewed and the remaining 12 participated in focus group sessions. This meant that another round of outreach to potential participants was not necessary as anticipated and was not conducted. No participant exited the interviews or the focus group sessions, though participants were free to exit at

any time. As a result, participant debriefing was neither conducted nor necessary, and no adjustments to the process were necessary. Data collection was audio recorded with the participants' permission. The audio recording was announced beforehand. Data were stored in a password-protected database that is renewable annually for 5 or more years, to which only I have access. Other than the ongoing coronavirus pandemic-related lockdowns, the divisive national politics, the November 3, 2020 national election, and months of racial justice demonstrations across the nation, there were no unusual circumstances in data collection.

Data Analysis

Thematic Analysis

The NVivo software system was used to code and organize data gathered from three focus group discussion sessions and seven individual semistructured interviews. The NVivo coding process started by importing the transcribed interview and focus group data, in pdf format, onto the NVivo software. The NVivo software facilitated the coding and development of nodes (subthemes) by dividing up focus group and interview data into concise words and phrases used to search or identify and code.

At first, an automatic data coding approach and analysis were used to gain an overall picture and trend. However, the coding approach was later modified to include an interpretative data coding and analysis strategy that used the combined theory-driven or top-down and data-driven or bottom-up approaches of the thematic analysis to identify emerging themes. The first process of the thematic analysis was applying the top-down approach, which Clarke and Braun (2014) described as establishing broad a priori themes

or master codes guided by the research question and based on the concepts and theories from the literature search and review. The application of the top-down approach identified and described four a priori themes (master codes), as shown in Table 2. The four a priori themes reflected what I heard from the study participants and aligned with both the research question and the literature review.

With the broad a priori themes or master codes developed, the thematic analysis second process applied the data-driven, bottom-up strategy that involved identifying common words or phrases from the focus group and interview responses to establish the subthemes (nodes). By applying the thematic bottom-up, data-driven strategy in an interpretative NVivo data coding and analysis manner, three overarching themes—roles, effectiveness, and outcomes—emerged. The three overarching themes that emerged from bottom-up data analysis matched the four a priori themes of roles, importance, effectiveness, and outcomes shown in Table 2. The difference was that the prior theme of "importance" did not emerge as one of the overarching themes because it only had two files or sources and only seven references or quotes. As a result, I coalesced it into the emergent overarching theme of "roles," which then became the emergent overarching theme of "important roles."

The participants discussed the roles of public participation in Los Angeles water resources management with 372 quotes, compared to 357 quotes for outcomes and 135 quotes for effectiveness. The resulting codebook of categories, subcategories, and open codes had many layers and levels that had to be collapsed together (clustered) logically, initially during NVivo coding and later during data analysis, to allow patterns, categories,

codes, and themes to emerge. Initially, tree mapping or cluster analysis was run in NVivo, but eventually, I found it more efficient to approach the task logically and conceptually. Subsequently, I applied pattern coding and looked for similarities or differences among the subcategories and open codes to collapse them. Thus, I applied a coding tree approach to the codes and categories to derive the themes.

Discrepant Case

The discrepant case was the importance of public participation in Los Angeles water resources management, with seven quotes from only two of the 10 sources or files coded. The sources consisted of three focus group discussion sessions and seven individual semistructured interviews. The discrepant case's qualities were factored into the analysis by combining it with public participation roles in Los Angeles water resources management due to their similarities. This was because public participation would not have played any role in Los Angeles water resources management if it were unimportant or essential. In this sense, the importance of public participation in Los Angeles water resources management was the same as the roles of public participation in Los Angeles water resources management. As a result, the importance became one of the codes and emergent subthemes for the main theme of the roles of public participation.

Emergent Themes

The three overarching themes that emerged from the thematic bottom-up, data-analysis using the NVivo software system were the roles, effectiveness, and outcomes of public participation in Los Angeles water resources management. The three overarching themes that emerged from data analysis matched the four *a priori* themes from the

literature review and research question, as shown in Table 2, except the *a priori* theme of importance that did not emerge because it was already part of the important roles overarching theme.

Roles

One of the three overarching themes that emerged from data analysis was the "roles" of public participation in Los Angeles water resources management. The participants discussed the overarching theme of roles as the parts that the public can or ought to play in Los Angeles water resources management, including voluntary or obligatory rights, responsibilities, and actions. The participants identified and discussed the following eight subthemes of the overarching theme of roles of public participation in Los Angeles water resources management:

- communication,
- equity,
- governance,
- political will,
- regulatory role,
- trust,
- sustainability and resiliency, and
- importance.

The participants' discussions of each of the above subthemes are presented below for the "roles" overarching theme.

Communication. Communication was one of the subthemes for key components of public participation in Los Angeles water resources management that participants discussed. The participants discussed the importance of the water agencies considering themselves part of the community and members of the public to further open up communication pathways for meaningful community engagement.

Here are some of the key things that the participants shared about how opening and strengthening communication pathways play an important role in public participation in Los Angeles water resources management. Participant P9 set the tone for this discussion by sharing that the role of public participation in Los Angeles water resources management is to re-establish and strengthen communication between community members and their elected or appointed representatives. Additionally, Participant P9 shared

> that water agency managers working on a project for which the community needed to be engaged, would first go to the community's elected representatives for help to host a meeting for the constituents. In this manner, the water agency managers, would be effectively re-establishing and strengthening the elected representatives' lost or weakened position in the relationship flow with their constituents in the community and water agencies. This approach works even better, if the water agencies view themselves as part of the community they serve, because that would enable them to look out for the best possible way to engage most if not all of their fellow community members. This is because the representatives are appointed or elected to represent every community member.

Also, according to Participant P9,

> driven by the desire not to leave out any community resident from attending, participating, and being informed, the water agency managers would first go through the representatives who were elected to represent every constituent. This approach would also have the added benefit of re-establishing and strengthening the elected representatives as policymakers with authority over the water agencies that could be utilized to accomplish community needs more effectively and efficiently than attempting direct outreach to every community resident with the agency's limited resources. Working together in this manner as members of the public, the agencies, and the communities would be collectively encouraging, if not forcing the elected representatives to play their part in a way that would help to re-establish some of the communication pathways, or open the communication pathways more, as the participative and constitutional democratic principle of elected representation was designed to work.

The agencies' view of themselves as part of the public that they serve, placed on them the obligation to not only open communication pathways between the public and their elected representative, but also to open communication pathways between the agencies themselves and the community they serve, by informing residents correctly as to where community members could make informed decisions and demand necessary changes. In support, Participant P17 shared,

> it was not only that the water industry must reach out when they want public input, but it is also the water industry's responsibility to reach out to all segments

> of the community through a variety of forums, including through their elected representatives.

Also, in agreement, Participant P14 shared,

> "people will, if given the tools of how to participate, step up to make a change. For example, the agencies have a responsibility to be able to provide their water quality reports, not just in the English language, but in a way that's understandable to folks so that they can do something about it."

The participants addressed improving communication pathways between the community and their elected representatives and water agency managers. However, for the discussion loop of the communication roles of public participation in Los Angeles water resources management to be complete, the participants discussed improving communication among agencies themselves and developing unified and coordinated water policies, plans, and messages. Participant P2 summed up this aspect of the communication role loop by sharing that though communication among water agencies had improved, there remained room for improvements, of which having a coordinated message between the agencies is most important.

The conclusion from participants discussion of the communication subtheme is that the communication role of public participation in water resources management are to:

- re-establish the communication between community members and their representatives;

- ensure agencies increase their communication and outreach through the representatives that re-establishes the policymaker roles in the communication relationship flow or pathways, with the constituents, if not open up the communication pathway, to engage more persons and leave fewer or no individuals and communities out; and
- ensure agencies provide information in a way that's understandable to folks, by rightly or correctly informing community members, and reaching out to all segments of the community through a variety of forums, as well as by having a coordinated message among the agencies.

Equity. Equity is another important subtheme or a key component of the roles of public participation in Los Angeles water resources management, and here are the reasons why, from participants' perspectives. The tone for the discussion of the equity roles of public participation in Los Angeles water resources management was set by Participant P9 who shared that equity is an important role of public participation, without which blind spots, such as systematic racism, and gaps, such as environmental justice issues develop and widen in Los Angeles water resources management, now and through the generations. In suggesting a possible solution, Participants P5 and P8 shared

> that the narrative must change from the top to an inclusive one that brings all the voices to the table and listens to all the voices, without skewing the voice of the public towards those who are higher in income as compared with the broader public and even the interest of the broader public. Also, the narrative shall share

> all benefits and burdens equally, whether they have the wherewithal to participate and sustain over the long term or not.

According to Participant P8, “having an opportunity to engage needs to have a certain amount of equity allocated to it so that it is not just limited to the few.” In support, Participant P6 declared that the equity issue is a big challenge because “the way things were done in the past did not take into account everybody's voice, and we need to consider that today.”

> Participants P8, P15, P16, and P18 shared
>
> that the need of every community resident to be valued equally can be achieved by (a) making sure to work collaboratively and in equal partnerships; (b) making sure that water agencies care about the communities they serve; (c) ensuring consistent and affordable access to clean drinking water, for all, instead of having certain communities to drink substandard water because they are too poor to maintain their water pipes; and (d) addressing the common notion among water agencies that all stakeholders are not created equally, which deems some as influencers while others not.

According to Participant P9,

> in almost any engagement process, the biggest challenge is making sure to be equitable in approach and holding paramount the first principle of Environmental justice - "that the individuals whom an effort will impact, should have a voice in how the effort plays out.” When discussing the large Los Angeles diverse and densely populated community resident constituents whom the project would

> impact, it is difficult to get to everybody and do it in an equitable way. So, all of these become political power, relationships, and whatnots that stretch us away from public participation and engagement.

The participants discussed that the state and federal governments should help, if not intervene, beyond the means of certain local water agencies to address the environmental impacts and equity issues of water quality and infrastructure deficiencies to ensure safe, quality water for all residents to drink. The participants pointed out that as public awareness and expectations for public participation have increased, community members are to be expected, if not granted the ability to have more interest and control over their communities, and outcomes that impact their health, economy, and safety, including the safety and reliability of their drinking water.

In summary of the equity subtheme, the participants shared that equity plays the following important roles in public participation:

- preventing the blind spots of systematic racism and the gaps of environmental justice issues from developing and widening into the future;
- changing the narrative at the top to an inclusive narrative that levels the playing field by bringing all of the voices to the table, both of persons and the environment;
- ensuring consistent, quality, and affordable access to clean drinking water to all;
- allowing residents and stakeholders to have more control over their communities and interests in outcomes that impact their health, economy, and safety; and finally,
- establishing the political power and relationships that ensures an equitable approach making sure the persons impacted by an effort have a voice in how the effort plays out.

Governance. Participants agreed that one of the roles of public participation is to understand how the Los Angeles water resources management governance structure impedes public participation and re-structure it to enhance public participation. Participant P1 shared that part of the problem is the disjointedness of the various water agencies and their lack of cohesion regarding water policy vision for the future and coordinated public message. Participant P15 shared that there is no overarching governance structure, priority, or message around Los Angeles water resources management, with over 200 fragmented entities and fractured agencies operating in silos. Further, Participant P15 shared,

> "that the vastness of the Los Angeles area and its large population as the nation's second biggest city, which is coupled with fragmented land use planning, are beckoning for an effective super regional water resources management agency to allow public participation to flourish and further lessen dependence on the imported water supply. Public participation, leadership, and political governance structure have been fragmented and limited in transparency and scrutiny that the agencies have become self-serving and inefficient in managing water resources, the very thing they are set up to address."

Additionally, participants P15 and P16 shared that the big population and vastness of the area make Los Angeles one of the most challenging places to work and bring folks together around a common vision and build partnerships. Also, according to Participant P16, there is a gap in local and state leadership that is not helping with the water governance issue. In apparent agreement, Participant P1 shared,

> "the City of LA has one agency, the LADWP that is tasked with delivering potable water, and another agency, the LA Sanitation that is tasked with managing wastewater and there is a hard line between the two agencies, showing the disjointedness of Los Angeles water agencies when all water is the same, whether it is recycled water, wastewater, stormwater, potable water, recycle water, reclaimed water, or groundwater."

Furthermore, Participant P1 shared that as Los Angeles water agencies' framework for discussing and collaborating is emerging, so also is messaging starting to emerge around the concepts of 'one water' and 'no wasted water,' but that there is not yet a uniform message." According to Participant P1, there is also "notable resentment towards the city of Los Angeles or historical resentment towards wholesomeness between the city of Los Angeles and Metropolitan Water District. We are missing strong leadership. It is a very fragmented approach."

Political Will. The participants shared that exercising "Political Will" is an important role of the public in Los Angeles water resources management, especially if expressed through the democratic representative system of government, which will make our lives easier in getting the community needs to be addressed. According to Participant P9, "the best community engagement process handled by an agency for a project, even the best one, is a pale shadow of representative democracy working the way it is supposed to." According to participants P5, P9, and P15,

> it is all about exercising the political will and leadership in coming up with the goals, agenda, priorities and establishing the voice of the public and the

> community to the hearing of the public administers and policymakers and holding them accountable for addressing those things to the satisfaction of the community.

To emphasize, Participant P15 shared, “We like our elected to be leaders, and some of them are, and that is great, but when they are not, the way to remove elected officials is through people's power.” Participant P9 shared,

> it means managing the relationships between human beings so that the community residents can trust each other and make collective decisions. It is about the public re-engaging representatives to speak for all the community members who put them in that role. It is the understanding that government is not some other entity that is working against us or for us; instead, the government is us. It is a representation of our collective will. So, all the regulatory actions of the government carry out the will of the community members, through representative democratic processes of passing laws and ordinances and policies, and raising taxes, and all the other things that the community wanted to be done; and the more times we bring that out through public participation and remind ourselves of it, the more we will be able to invest in it working well and make our lives easier.

Participants P1, P9, and P14, shared,

> it is public participation role to get involved and get the policymaker involved but not allow the political process to get hijacked by special interests or influential individuals while interacting, collaborating, and building partnerships with the agencies and local organizations.

Participant P9 shared,

> the things that need to change do not have strong political public participation. the things that change, you can usually find that the public was engaged in making the change happen. Policy change always picks up strength from the community, or someone, because someone has to be engaged enough that the policymakers will affect change or resist change.

Regulatory Role. The participants discussed that addressing regulatory challenges is the role of the regulated permittees, such as public agencies. However, ultimately it is the role of the public in so far as ensuring the community needs are met, especially, as discussed herein. It is the public's role to get some consistency between state, county, and all other different regulations that encourage the right type of water resources projects that the community needs. According to Participant P6, "it is really important that you do not have things that stop you from being able to do the right thing, just so that you meet the regulation." Participant P7 shared,

> "public engagement and public outreach increased because there was a state order (and regulation) for the entire state of California to conserve water. One way the public can support being less dependent on imported water would be to support favorable regulations for developing local water resources, including stormwater management (stormwater capture and reuse) and water recycling."

In agreement, participants P12 and P18 shared that it would be in the public's interest to ensure that regulations protect the public they are established to serve and not hamstring them by eliminating flexibility and options that the public might need later.

Also, Participants P3, P8, P12, and P18 discussed,

> part of the public regulatory roles can include understanding the process of regulatory development and how regulations can be proposed and passed to get what the community wants as well as getting the regulatory agencies to weigh in where water agencies or anyone owns responsibility, like in cleaning up pollution.

Trust. Participants agreed that establishing and maintaining trust is an important public participation role in Los Angeles water resources planning, because trust is one of the biggest challenges to Los Angeles's ability to establish a reliable water supply. According to Participant P6, "one big challenge in terms of bringing reliable and sustainable water supply to everyone in Los Angeles, is the issue of trust. Many persons do not trust the water that comes out of their tap." Participant P6 shared, "There is an NGO called WeTap that LADWP partnered with on water trust issues." Participants P1 and P16 shared that

> they supported the idea of collaborative partnerships between local grassroots groups, NGOs, and water agencies, but only if coupled with trust and not skewed towards the self-serving interests of the water agencies and their allied NGOs, to the detriment of the public interest.

Participants P1and P2 discussed that

> that there had been a long-standing resentments and polarizations among the communities and the water agencies due to lack of trust. The community members are not yet trusting the water agencies to the extent that the agencies would want. There is room to improve trust.

According to Participant P2, “the key to building trust is building those relationships over the years. There is still some distress and, specifically, with water-providers, for example, LADWP and water quality, and a lot of that distress exist in disadvantaged communities.” Discussing the issue of trust, in the entire State of California, including Los Angeles, Participant P9 shared,

> there has been an undercurrent in California “that persons in Elective Office are being acted upon by forces that we cannot trust.” This created the need to have direct relationships between the community members and the technical experts at the water agencies, bypassing the elected representatives who are supposed to represent the entire community.

Sustainability and Resiliency. As one of the key roles of public participation in Los Angeles water resources management, the participants discussed the subtheme of sustainability mindset that includes resiliency, as the long-term, holistic, and non-exploitative approach,. For example, the participants shared the concept of sustainability and resiliency that is not destroying one ecosystem for another to bring more water to Los Angeles as was done during the Extraction Era, but one of an integrated, holistic approach to water resources solutions. The participants shared the understanding that sustainability may not be cheap or incremental but may require urgent, bold, complex, innovative, and transforming steps to address the community's needs, especially now that the easy solutions have been utilized. The participants discussed the need to pay for sustainability, not destroy the ecosystem, and view water as a high-priced commodity that

requires a holistic approach and solutions to manage. In agreement, Participant P17 shared,

> "sustainable water resources require that the water industry be concerned with the long-term conditions of water resources and ensure that it is safe and reliable for generations to come. We cannot continue to think in silos but look at the holistic picture of water services, the persons that need to drink it, and the environment that needs it to keep the ecosystem stable. We cannot look at one area without the other. So, a holistic approach needs to be established when exploring water solutions."

In support, Participant P1shared that "water resources managers and policymakers have not always considered participative sustainable and integrated principles approach and have been operating in a state of depletion of the groundwater basins."

In agreement, Participant P18 shared,

> "from the state to the federal, it makes sense, because of the of the issue of unintended consequences, to have an integrated, holistic approach to come up with the best outcomes, given all the circumstances, and not end up with conflicts or detrimental impacts trying to solve one specific issue."

In support, Participant P17 shared,

> "water is a finite resource that must be sustainable, by producing an overall holistic plan that serves all the parties involved with emphasis on the climate and the environment, particularly now all the simple projects are done. Now is the

> time to do the hard, expensive projects that require much innovation, much engineering, and this is where are we."

The participants discussed the need to pay for sustainability and the cost for the environment, which we have impacted drastically. In agreement, Participant P17 shared that "we have to pay the cost to ensure sustainability so we can ensure that there is enough water to meet the needs of this generation and future generations. We should do it in an environmentally sustainable manner."

As the residents of the Colorado River and the State Water Project areas are feeling the pressure of climate change and the need to reduce water supply for environmental reasons than continue to export them to Los Angeles, Los Angeles is looking at that, pondering what the next water source is for them, and has started to think more about sustainable solutions. According to Participant P17,

> "Los Angeles had abundant artesian wells in the 1920s, over 600 artesian wells, but nobody was thinking sustainability. Instead, everybody thought that every time Los Angeles residents would run out of one source of water supply, they would find another one. First, Los Angeles ran out of water from the Los Angeles River and then from 'in-basin' groundwater resources. Today Los Angeles gets its water from the Owens Valley, the Colorado River, and the State Water Project, all resources strained by climate change leading the City to explore sustainable options to meet the needs of the City."

Thus, for Los Angeles, it is time to look inward, and increase water recycling, re-use, and conservation and achieve more efficiency, coordinated policy, and unified message

through integrated regional planning, adaptive management, and collaborative partnerships.

Regarding resiliency, Participants P9 and P14 shared,

> the ecological mode of resiliency ought to be the goal and with it the ability to resist disturbance until you cannot, then it becomes recovering from disturbance into a stronger position than when you were disturbed, growing back better, and building back better because it makes personal sense, social sense, and collective sense.

In conclusion, the participants discussed the importance of the sustainability role of public participation in Los Angeles water resources management, which is to develop, fund, and implement the holistic, sustainable, resilient, participative, collaborative, integrated, and adaptive approach to Los Angeles water resources management; to achieve the desired community goals, but not at the detriment of other people's welfare or the environment.

Importance. The participants discussed the importance of public participation in Los Angeles water resources management and shared that without being important:

- public participation will have no role to play and would not make a difference as has been proven; and
- the project would be impacted or stopped by the policymakers or at the courts if that engagement is not done.

According to Participant P18, this means that public engagement is highly beneficial if not critically important in terms of being able to get the project done." In agreement, Participant P2 shared,

> "there are many areas where we can improve our collaborations. I think that is where public participation comes. We collaborate with stakeholders to come up with policy recommendations to be able to include environmental justice or prioritize environmental justice more; it is important to bring the public and to be able to make those policy changes and to have the support of the public because they have been involved from the beginning of the planning process, before the projects, so that they can be with us throughout the entire process of planning and implementing solutions."

The participants discussed that public participation and engagement are important in Los Angeles water resources management, especially if the public is involved and engaged from the very beginning and not as an afterthought. However, how planning presents information to the public makes a difference in getting the outcome the community wants. According to Participant P18,

> "public participation makes a difference, but it also comes with how the planning and presentation of information to the public goes. It is good to have public participation, hopefully ultimately leading to what the community wants. I think the danger is how the issues are framed."

Effectiveness

Participants discussed that the overarching theme of effectiveness of public participation in Los Angeles water resources management depends on the cost or available resources and incentives; how information is shared with the public; and the public's ability to change institutional practices and adapt to climate change and other changes beyond their control. Accordingly, the participants discussed and described the overarching theme of effectiveness, as the factors or conditions that can lead to the success or failure of public participation in Los Angeles water resources management, which includes the following three subthemes:

- cost and incentives,
- information, and
- changes in institutional practices.

Out of the three subthemes, only institutional practices is further broken up into category themes, showing the participants' consensus that changing the institutional practices is key to effective public participation and engagement, yet the most challenging and difficult for the public to achieve.

Cost and Incentives. Participants discussed the subtheme of cost, including available financial resources, financial incentives, and regulatory incentives as key to the effectiveness of public participation in Los Angeles water resources management. In agreement, participant P6 shared that "there is always a challenge with funding and that many times, emphasis is not placed on funding nature-based solutions, so, getting the funding to do multi-benefit water projects, is going to be key." In support, Participant

P15 shared that current water rights and water pricing make it difficult to implement a more progressive water policy and incentivizes more water reuse and conservation. On the importance of having resources and wherewithal to engage and participate, Participant P14 shared,

> "providing supporting resources to those who could not participate otherwise and providing them with incentives would increase their chances of participating and sustaining their participation over the long term, as well as increase awareness and empowerment among other disadvantaged would-be participants."

Participants also discussed that public participation, engagement, and outreach are limited because water agencies do not have all the necessary resources including regulatory and financial incentives. In support of this assertion, Participant P13 shared that "most agencies are not going much beyond the public engagement defined by status, which is expected, because it is expensive to undertake broader initiatives." In agreement that incentives are needed, Participant P18 shared,

> "the water agencies are conducting public participation and outreach based on how the regulations are constructed and that the agencies are limited by how much resources they have to be able to use all possible avenues to reach the public."

In agreement, Participant P1 shared,

> the agencies cannot develop water management plans without "anything in there in terms of how to pay to build it. You cannot have a wishful plan; you must figure out how to pay for it. There should have been a public private partnership

> or some engagements that were done there to create and develop this master plan and implement it."

Also, in agreement, Participant P2 shared,

> "all the major achievements, in the last few years, including the passage of the Safe Clean Water Program (Measure W) by LA County voters, which was the most recent achievement, were results of effective public participation. People figured out how to support and fund the programs."

Additionally, Participant P2 shared,

> "With that passage of that measure, we can fund projects to capture stormwater, not just for water quality, but for water supply, as well as for flooding benefits in decreasing flooding. So, there is going to be a lot of tangible results from that funding measure."

In conclusion, public participation and engagement are not just setting public goals, agendas, priorities, or developing plans, programs, and projects; but also figuring out how to bring them to fruition, how to fund them. So, cost or funding resources and incentives are critical to an effective public participation outcome. It takes public participation and engagement to develop community goals, plans, priorities, and funding for implementation, without which public participation is not effective.

Information. The participants discussed that information is key to the effectiveness of public participation in Los Angeles water resources management. It depends on how the information is presented and shared with the public and the

knowledge and awareness of the public participants. In agreement, Participant P18 shared,

> "the information is the key, but that the information is only as good as it states or conveys the basis by which and on which that information is developed, and as good as the knowledge and awareness of the persons who have participated. However, the idea of bringing that information to the public is still a good thing because it still makes the public also aware, so, then the public can do their homework of educating themselves, become more familiar with the issues of concern, ask questions that are important to them, and seek the answers to their satisfaction."

According to Participant P18,

> public participation makes a difference, but it also depends on how the planners present the information to the public. "In the last century, even with public participation, the planners brought information to the public to examine that involved, identifying water supplies that were available elsewhere, and bringing the water to Los Angeles was the planners' preoccupation at that time. The planners prevailed with little or no restriction in bringing that water to Los Angeles because it meant immense economic growth for Los Angeles, and the public was not able to stop them, even if they tried."

Further, Participant P18 shared,

> "it is good to have public participation, hopefully ultimately that leads to what the community wants, but that the danger or the balance remains how much

involvement of people takes place, how to engage the public meaningfully, and how the issues are framed or should be framed by the planners and water agencies. Ultimately, the effectiveness of public participation in Los Angeles water resources planning and management depends on how the information is framed and who is at the table and how powerful is the opposition."

Changes in Institutional Practices. The participants shared that institutional practices are key factors determining the effectiveness of public participation and engagement in Los Angeles water resources management. As a result, the participants took the time to discuss it in much more depth than any of the other two subthemes of the overarching theme of effectiveness. To better understand this key aspect of the overarching theme of effectiveness, the participants discussed the following nine categories or aspects of changes in institutional practices, namely:

- planning and governance changes,
- changing the top-down institutional approach,
- public perception of water agencies' outreach approach,
- water agency managers' perception of their outreach approach,
- water agencies listening with understanding,
- fully engaged process with influencers and elected representatives' leadership,
- changes in water agencies bureaucratic practices,
- accountability and engagement through a legal framework, and
- change water agencies expect from the public.

Planning and Governance Changes. According to the participants, to be effective, the public is requesting significant institutional changes in Los Angeles water resources management, including the following:

- changes in planning for land use and water infrastructure development;
- restructuring governance for land use planning and water resources management;
- considering the environment and public as key stakeholders, in decision-making processes, not as afterthoughts; and
- a return to the democratic ideal of public engagement through the elected representatives to ensure no one and no community is left out.

According to the participants, returning to the democratic ideal of public engagement through the elected representatives will reinvigorate the balance created during the progressive era, when:

- President Woodrow Wilson founded public administration as that which administers,
- the elected representatives were viewed as those who represent all constituents and retains authority, and
- the public was viewed as those who retain the power to demand accountability and improved service delivery to meet the present and the future needs of the community – sustainability.

As evidence that the participants would want a return to the democratic ideal of public engagement through the elected representatives, Participant P14 shared that "we need to hold our elected representatives accountable, and water has to be one of the

things that they care about." Additionally, Participant P14 shared that "the way to remove elected officials is through people's power." The participants discussed the need to change land use planning and how cities are developed. Participant P15 shared that "to be a water person, you have to work on land use planning." Also, Participant P4 shared that "ultimately, unless you change the structure of these institutions and the leaders, then we are not going to change the mindset and the way we develop our cities in order to meet the challenge of climate change."

Changing the Institutional Top-Down Approach. The effectiveness of public participation depends on many things: the public's perspective or opinion of how the agencies, particularly the policymakers, view or treat them in a sort of spectrum continuum. If the public perception pendulum swings toward being treated by the agencies and policymakers as their ultimate employers, which they are, then it is likely that public engagement will be effective and satisfying to all concerned. Conversely, suppose the public perception pendulum swings toward being treated as an afterthought or necessity to meet statutory obligations, let alone being treated condescendingly as if uneducated and less privileged. In that case, public participation and engagement will suffer and be correspondingly less effective and less satisfying for all concerned, including the environment. It is a behavioral issue on both the parts of all concerned. However, the good news is that the agencies and policy makers are beginning to listen, and signs of successful outcomes of public participation in Los Angeles water resources management are emerging and expected to grow as all sides show more willingness to

work collaboratively with mutual understanding, trust, and goal of serving the public needs in the most holistic, integrated, yet balanced manner. Participant P3 shared,

> "they should care deeply about the people they serve and those from where Los Angeles gets its water supply. I am a public servant. That is what I do for my profession, and I take that seriously. I am not speaking about my agency; this is just my personal view, but as an agency, we should, that should be our highest goal, because that is what we get paid to do, to serve the community."

Public Perception of Water Agencies' Outreach Approach. The participants shared that the public is desiring and requesting a change in water agencies outreach approach, from top-down, inside-out paradigm that is not transparent, to an outreach approach that recognizes the public as an equal partner, who knows a lot more about the community needs and priorities. The participants discussed that the community is clamoring for a water agencies outreach mindset that goes beyond the call of duty, though it may cost more. According to Participants P4 and P5,

> water agencies' current outreach approach assumes they are doing the important work, while the public is not an equal partner. So they invite the public to participate in something, answer some pre-designed questions that they have already skewed to go in a certain direction; and pretend to listen, but will ultimately do what they wanted to do in the first place, unless, of course, it is a strong community that is going to use an elected official to sit on the agency and make them do something they did not intend to do, or maybe sue them.

According to Participant P4,

> "unless we get to a more participatory process that engages collaboratively from day one, that encourages the generation of ideas and takes them seriously that provides meaningful pathways for participation in design, implementation, and stewardship, in the projects, we are getting nowhere."

Participants P4, P5, and P6 discussed,

> the current outreach approach of water agencies is still a top-down paradigm that allows for communities to begin to participate in a design process, once the agencies have determined an area they want to work in, and once they have got to maybe 70% design. Then they will have community input, which they may or may not take. Participant 4 shared that "usually, they are like, oh, well, you do not understand engineering. That cannot happen. Furthermore, that is about where we are right now, and that is where we have been stuck for a very long time. I do not know how to break out of it, but, again, it ties back to how we work now, inside outside. The public is terrifying. Nature is terrifying. My job is to control things. We work as Engineers. Engineers' rule. We are above biologists. We (agencies) may take their (public) consultation because we are now required to, but we ultimately know best. The public would be better served through an integrative, multi-disciplinary, multi-sector including the community, collaborative, generative, democratic, fully engaged process."

The participants shared that they wanted the agencies' outreach approach to be integrative, collaborative, multi-sector that includes the community, democratic, and fully engaged process.

Water Agency Managers' Perception of Their Outreach Approach. In support of the assertion that water agencies outreach approach is limited and can be improved, Participants P8, P13, and P18 shared that water agencies are not outreaching beyond the limitation of regulatory statutes and available financial resources. Participant P8 shared that "to comply with California Environmental Policy Act (CEQA) and National Environmental Policy Act (NEPA), you can probably do a minimal effort and you will not violate CEQA and NEPA from a public engagement perspective." In pointing out some of the challenges, Participant P11 shared,

> "a long-term program to make a change does require more engaging with the public, to point them in the right direction, because the public, wants something done, but they do not understand the challenges for the infrastructure or the investment that's required to get it done. We can hear information, inform the public, and respond to guide them. Furthermore, that is maybe what a bureaucracy or an agency like the government can do to help get to some programs that are getting implemented."

Participant P18 shared,

> "public participation can be more effective if the public is informed of the consequences of their decision or activity. The whole idea of going to them is to make them aware of what they may not have already known. They may not even

> be aware of the experts in those areas proposing those issues. However, by discussing with the public, they can become more aware and gain better knowledge and insights. And then, relate that to their circumstances, and be able to try to see what are the best outcomes for the community as a whole."

Also, Participant P18 shared, "So it becomes how the information is framed and who is at the table and how powerful that opposition is." To point out how the agencies should care and listen to the community, Participant 17 shared,

> "They should care a lot. If the people you serve have a concern, your responsibility is to listen, and have responsibilities to address that concern. Furthermore, by the way, there is no little concern. Every concern is valuable and important."

Participant P3 shared,

> "an agency has to have a strong desire to do the project, establish the political capital, to get those forces behind them. Then once you do that and get that momentum going, the next step would be getting the public on board."

Further, Participant P3 shared,

> "you just have to get people that need to be informed. Your average person does not even know where their water comes from; people take water for granted. They turn on the tap, flush the toilet, and that is pretty much it. And when it is not available to them, then it is an issue. But I think people are not aware. So, I think people would willingly participate and get involved if they are aware of what is

> happening with their water and if there is a particular project that has been planned or developed about the safety of the water and things like that."

Participant P8 shared, "people also have to choose to engage. Individuals have to choose to engage." Participant P3 shared, "So, I guess the route, then, would be, you have to target community leaders, who could then disseminate that information, throughout the community."

Water Agencies Listening With Understanding. The agencies might be showing signs of beginning to hear the public and understand some of the things the public is requesting, including avoiding past mistakes through increased public participation and more meaningful engagement of the public. For example, Participants P13 shared,

> "We should expect that we will learn things we did not already know, input that will make our projects better. We should not be "selling" to them. We are learning from them. In my experience, there are always insights to learn from stakeholders. Furthermore, we often do not know what is on the ground, factors we cannot see in aerial photographs or topographical maps. There is just no substitute for our people on the ground. It helps us avoid mistakes."

To show that water agencies are listening, refocusing their message and raising awareness, Participant P1 shared,

> "So, the water agencies depleted the groundwater aquifers instead of recharging it. It probably would not have even been an issue, because when you have had an abundance of cheap imported water, it is not an issue. However, once it becomes rationed, most people fight for their portion of water when there is not enough to

> go around. So, these water agencies now are having to refocus their message to conservation and sustainability, and that is, in turn, raising awareness."

To show that water agencies are listening and providing comfort to the community, Participant P8 shared,

> "it is going to be at a higher-level treatment because we also felt that, even though that technology was good and the water was good quality and met requirements, that we would add a level of comfort because that was important for the community. We would add a treatment level to make sure that the community was more comfortable with the project. So that was also shared in the process, and it was all because of the Recycled Water Advisory Group."

Fully Engaged Process With Influencers and Elected Representative Leadership. The participants discussed that the public is requesting a fully engaged process approach that is collaborative, integrated,, multi-sector including the community, democratic, generative, and beyond that expected by the law and regulations, though that may cost more. The participants discussed that public is expressing renewed interest in the representative democratic process of the elected representatives representing the broader community and leading the charge to achieve the fully engaged process approach for addressing community needs or be held accountable by the public. Simultaneously, the participants discussed that the public is also expressing renewed interest in the water agencies providing their technical expertise in a collaborative approach that utilizes the influencers (local community trusted activists, elected officials, or NGOs) to reach and engage the community. Accordingly, Participant P11 shared,

> "do we have to use the public engagement model that Orange County Water District used for greater engagement, the most perfect model which they used for their Groundwater Replenishment System or GWRS? They targeted those most interested, the thought and public opinion leaders in their area. The most effective way is to identify the most important influencers, whether its public opinion leaders, thought leaders, trusted local activists, elected officials, NGOs, or local religious leaders. Target those because they influence, they have the population, and you'll have the multiplier effect."

Participant P8 shared,

> "then you have city leadership, like your elected leaders, who would hold agencies' feet to the fire if segments of the community are being ignored. Furthermore, that will be to the extent that these elected leaders are aware and are concerned about public engagement. Thus, if a community is left out and the elected leaders do not show up and speak out, then there was a gap there."

Changes in Water Agencies' Bureaucratic Practices. The participants discussed that public engagement effectiveness remains limited so long as water agencies continue to be bureaucratic - slow to act and not take the quick, bold actions necessary. In support, Participant P4 shared,

> "we have been piloting things for 25 years. They are stuck in pilot mode with the very things they need to normalize. It would be transparent if the stakes were not so high. Anything that provides more than one benefit must remain a pilot, especially if humans or nature are involved. I expect they are just uncomfortable

> with things you cannot either construct with concrete and steel or purchase off the shelf. For instance, green streets: pilot; distributed nature-based projects: pilot; thousands of dry wells: Where do I order more? Let us put them everywhere now!" Look, we do not live in a desert in Los Angeles today. Palmdale is in the Desert, but Los Angeles is not. By the end of the century, we may well be if we do not act quickly enough and take the kind of big steps we need. Unless we move away from incrementalism, we will become a desert, though we are not now, and never have been."

Additionally, Participant P4 shared,

> "embrace incrementalism and you are not serving your people, which is fundamentally job one. These local agencies are very self-protective and hyper-bureaucratic. When you get up there, it is slower and more 'hidebound' than even the federal government."

Accountability and Engagement Through Legal Framework. The Public also uses the legal framework to achieve changes in water agency practices and meet community needs. Accordingly, Participant P15 shared,

> "So, we had regulations, and folks wanted to ignore it. You did not have the tools to comply or just flouted. Thus, this was how organizations and communities engage. So, it put us in this legal framework with, you know, it gave us many wins, and it made it clear that people had to change, or we refine the rules."

Participant P11 shared, "These seem to summarize the need for collaborative interaction with the agencies, through the course of settlement agreements."

Changes Water Agencies Expect From the Public. Los Angeles water resources agencies expect a willing public, willingness to change behavior to accepting recycled water, willingness to be educated, and willingness to staying on top of things, when on the other hand, the public is expecting the agencies to create the capacity in the community and provide the incentives for these to happen. So, when these expectations clash, the effectiveness of public engagement efforts suffers. To highlight the water agency's expectation of the public, Participant P12 shared,

> "I think the technology is there, and the engineering is there, but changing the behavior is what is difficult. You could have low-flow showerheads, low-flow toilets, things like that, but you need people to think about taking shorter showers if we want to be more drought tolerant even when we are not in a drought."

However, the agencies realize some of the roles the public expects of them in reaching out to the community and providing them with the information to engage more meaningfully and consistently and figure out how to get more public attention and engagement. To this end, Participant P12 shared,

> "we are hoping to get more engagement. I think the challenge is, are people even interested in engaging with us on this complex subject? How do we make it interesting to get people in the room whenever we have a public forum? We seem to depend a lot on nonprofit organizations to assist us in being the ambassadors of our message that they bring us the audience to learn more about it. Usually, the only time we get much attention is when something negative happens, and it is in the news, such as a rate increase, a water main break. Somebody once told me, the

> only times people engage with the department is when something is wrong with the water, water is not coming through their faucet or their bill. These interfaces are bad first impressions and not ideal for customer service interaction. So, how do we overcome that? How do we make infrastructure investment and sustainability important to them? How do we inform them that we need their support? How do we show them where their money is going after they pay their bills? That is a big deal. Furthermore, we need to get ahead of it; the more educated or informed our public is, the better we are as a utility. If the public should want to learn, we need to be ready to provide them that information."

Participant P8 shared,

> "the public needs to become educated about what are the various options. What are the sustainable outcomes for different sources? What are the impacts related to going forward on one strategy versus another, or in combination thereof? What are the cost implications in terms of water rates, sewer rates, things of that nature? What kind of infrastructure needs to be implemented to make it work? Moreover, through what communities will that infrastructure traverse and be installed?

Overall, it may be that the agencies are well intended in their expectations, but maybe, it is not being conveyed to the public that way. Participant P13 shared,

> "I have heard so many projects begin with, Oh, we have got to sell this to the public, as if we are going to meet resistance. We must fight through it and force this stuff down their throats because we know it is best. We should all begin; I hear you say the same things are we. We should begin with the notion that if we

> get a really good group of public stakeholders willing to spend their time, listening to us, talk about something that we should expect, that we will learn something that we did not know before, that will make our project better, but I do not know how many, or how frequently the process begins showing, genuinely, people believe they are going to learn something from engaging stakeholders."

Outcomes

One of the three overarching themes that emerged from data analysis is the "outcomes" of public participation in Los Angeles water resources management. The participants discussed the overarching theme of outcomes as the evidence or the lack of evidence of public participation impacts on Los Angeles water resources management. The participants discussed that public participation outcomes have occurred throughout the history of Los Angles water resources management, from before the founding of the City of Los Angeles, also known as the indigenous people's era, through the eras of extraction, retraction, and refinements, to the future era of expected outcomes. As a result, the participants divided their discussion of the overarching theme of outcomes into three subthemes, namely:

- the extraction era outcomes that included three category themes or sub-eras of the indigenous peoples, City founding, and hydraulic era that led to imported water dependency;
- the retraction and refinement era that led to reduction of imported water and dependency on it; and
- the future era of expected outcomes and uncertainties.

Presented below are the participants' discussion of the overarching theme of outcomes, its subthemes, eras, category themes, or sub-era outcomes of public participation, or the lack of it in Los Angeles water resources management.

Extraction Era Outcomes. All the participants discussed and described the extraction era as when Los Angeles began using or taking water for consumption, from the following sources:

- surface waters that included the Los Angeles River and springs,
- the groundwater, and
- water exporting areas, approximately 300 or more miles from Los Angeles, including the Owen Valley in the California Sierra Nevada region, the California Bay Delta, near San Francisco, and the Colorado River.

However, I have focused this study primarily on the Owen Valley area due to limited time resources. Participant P11 set the tone for the discussion of the extraction era by sharing that "what you call the hydraulic era, I call an era of extraction up until around the 1960s." Then, the participants discussed and described the extraction era outcomes or aspects of the extraction era outcomes, in terms of sub-eras, based on the type of extraction and the level or extent of public involvement that occurred during each sub-era. The participants discussed and described the following sub-eras:

- the Indigenous Peoples' era of before the late 17th century, aka before the City founding era;
- the City founding era, from late 18th century to late 19th century; and

- the hydraulic era of large interregional water infrastructure projects, aka the aqueducts that brought imported water to Los Angeles, at which time imported water supply dependency started.

The participants discussed that the hydraulic era began in the late 19th century and ended in the late 1960s to the early 1970s; and was also known as the William Mulholland era, named after the first head of the Los Angeles Water Department. William Mulholland was hired by the then Los Angeles Mayor Fred Eaton. The following summarizes what some participants shared about the level of public participation during each sub-era of the extraction era, as supported by some of the participants' quotes.

The Indigenous Peoples' Era. The participants used other names to describe this era, such as the native American era, tribal communities' era, the early stages, before the city formation era, etc. In setting the tone for this discussion, Participant P9 shared,

> "you want to reach before city's formation into what the landscape was. Like when tribal communities inhabited it, there were large communities of people living with the native hydrology of the region as sufficient to their needs before colonization. I think acknowledging this truth would be beneficial."

Also, Participant P9 discussed, "the phases that you had already called out show a move away from and now back towards our relationship with sort of sustainable hydrology that existed prior, when there was only like a million people living here." Additionally, Participant P9 shared,

> "the early history of development in our region that led to the imported water being considered both to make a ton of money, but also to grow the region was the overuse of the natural hydrology; failure to understand the limits of the natural hydrology by the early settlement that was Spanish and Mexican American."

The participants discussed this sub-era as when the indigenous peoples lived in the area, before everyone else arrived, through the founding of the City of Los Angeles, in the late 18th century. Based on participants' perceptions, the indigenous people have continued to live in the area beyond this time in history. However, now with the arrival of others, the level or extent of water extraction and usage began to change, and so did the natural hydrology of the area, which is an outcome or result of public participation or the lack of it. In discussing the condition before the arrival of others, the participants described the indigenous people as having lived in harmonious relationship with the land, natural hydrology and ecosystem, because they were connected to the land and with nature. They knew where and how to live on land and with nature. They were sufficiently supplied by water from the Los Angeles River. In agreement, Participant P16 shared,

> "they have the history of interactions and relationships with water and the springs, and many of their words are based on nature, water related words. We have been environmentalists going back to native American times. We grew up with the environment being very important."

In agreement, Participant P4 shared, "It is like indigenous knowledge, where to live, how to live on the land. Honestly, we are scrambling right now. We need indigenous

knowledge because frankly that is the only way we are going to survive." In support, Participant P14 shared,

> "the indigenous people set up around things like the waterways and the river. However, they did it in a way that the later settlers did not understand that then they disconnected themselves from the very thing they had originally wanted to connect to."

In agreement, Participant P17 shared,

> "Los Angeles had sufficient water in the basin in the 1700s and 1800s to support around 45 small Gabrielino villages scattered throughout the basin. They would get their water from the flowing waters of the Los Angeles River the source of the river was the aquifer under the San Fernando Valley that is supplied with water from the surrounding mountains. Entrepreneurs would transport water in water barrels to resident's homes and sell them to residents. Fred Eaton who ran the Los Angeles Water Company started constructing diches or zanjas to deliver water from the River to the City. William Mulholland was an Irish immigrant who began his career in 1878 as Deputy Zanjero of the old Los Angeles Water Company and in 1886 was named Zanjero. He had no formal training as an engineer. In 1902 the Los Angeles Water Co. was bought out by the City of Los Angeles and became the Bureau of Water Works and Supply. The name was changed to LADWP in 1920. As Los Angeles grew, the City needed more water, so the residents turned to underground resources, but the City was still growing

and needed more water and needed a new supply. So, they turned to Owens Valley."

The City Founding Era. The participants described public participation during the City founding era, from the late 1700s, when the City was founded through the late 1800s, to the early 1900s, as when Los Angeles inhabitants did the following:

- exhausted water supply from the Los Angeles River;
- exhausted or over-pumped out the local groundwater sources;
- established the Los Angeles Department of Water and Power (LADWP);
- began the search for additional water supply from outside the Los Angeles region, particularly from the Owens Valley, approximately 300 miles from Los Angeles that was begun by Eaton, Mulholland, and other City of Los Angeles "fathers;" and
- laid the foundation for two important outcomes of the extraction era, the Los Angeles dependence on imported water supply, and a long conflict with water exporting communities of the Owens Valley that would later contribute to the retraction or the reduction of Los Angeles ability to import as much water from the Owens Valley as before.

In setting the tone for this discussion, Participant P12 shared, "the LA River could not sustain the water demand from the population growth, in the early 1900s." However, in contrast, Participant P4 shared that "when we stole Owens Valley's water, we had enough for about 20 more years of projected growth. Stealing Owens Valley's water and channelizing our waterways are what facilitated such rapid growth.''

Also, participants discussed and described public participation during this era in the form of judicial review and court decisions, particularly regarding the Pueblo water rights, groundwater pumping adjudications, etc. Participant P14 shared,

> "go back to start with the Native American era. You start from that perspective, and then you can talk about Pueblo rights; you have the seventies when there was an adjudication of the basin here in LA that set the tone for water rights. That was a big judgment. Moreover, when you take it back to the Native American history and their displacement because of water, then you can talk about the water coming from the Owens Valley and Mono lake basin; and how we were able to grow as a city because of the water that was imported, but also the impacts that it had on the native people, the Shoshone Paiute Tribe in the Owens Valley, and the mono basin."

The participants discussed that Eaton and other City of Los Angeles fathers deceived the people of Owens Valley to avoid their opposition to taking their water down to Los Angeles, one of the obvious signs of lack of public participation. In discussing another sign of limited public participation, Participant P12 shared,

> "there was another group of people that were very opposed to this project. It was kept under wraps and secret by Fred Eaton, Mulholland, and others. These were the people up in the Owens Valley in Inyo County areas. They did not realize that the water rights Fred Eaton bought up were intended to send water to the City of Los Angeles, until after a lot of the approvals, even with the US Congress, a lot of the funding for it was in play."

The Hydraulic Era. The participants also called this era by other names, such as the imported water era or the William Mulholland era, because he was key to importing water and bringing it to Los Angeles from the Owens Valley, almost 300 miles away, through the Los Angeles Aqueduct that he was key in constructing, in 1913 (LADWP 2013). Participant P13 shared,

> "we did have a sort of 'William Mulholland' era. "It was a period when we were very confident in civil engineering and very willing to go out wherever we had to go to find the cleanest water and do what the Romans did, bring it to where it was needed."

The participants shared that public participation was limited during the hydraulic era and City fathers made efforts to control nature by building the aqueducts for importing water and constructing 51 miles of concrete conduit for flood control that channeled the Los Angeles River to the ocean. Participant P4 shared,

> "there were people on the social side of things who spoke up about the social impacts to our communities, but there was a much greater acceptance of the kind of social engineering that was the display of power that was going on, and concrete was celebrated because it is like the age of engineering."

Participant P17 shared, "what we created was the most robust infrastructure in the world for water delivery." Participant P3 shared, "Los Angeles would not be Los Angeles as it is today, without the three major aqueducts that bring water into Southern California." Participant P11 shared, "Before 1970, 4 aqueducts were built: Both Los Angeles

Aqueducts, Colorado River Aqueduct, and the CA State Water Project aqueduct. Since this era, no additional aqueducts have been built."

All the participants talked about the lack of public participation and consideration for the environment, during the hydraulic era, except for the passage of the bond measure that funded the construction of the Los Angeles Aqueduct, which the community voted to pass. However, according to Participant P4,

> "the vote was won through propaganda. Fred Eaton and other powers who saw profit in expanding the City, led a propaganda campaign saying we were out of water and residents needed to tax themselves to build the aqueduct. Residents did."

Participant P12 shared, "public participation during that early stage through the hydraulic era may have been non-existent." Participant P11 shared, public participation was minimal during the extraction era." Participant P13 shared,

> the public was not involved in the decision-making process, but public support was evident. When the public became aware, that a new supply was arriving in Los Angeles, there were roughly 40,000 people gathered to see and celebrate the first delivery. Generally, there was public support for building this first generation of infrastructure. The public supported it by voting for the bond measures to fund investments from property tax revenues. Their votes to tax themselves was a tangible sign of public support. At that time, there was not an expectation that the public was going to participate in making decisions regarding how things should be done. That was never dreamed of."

Additionally, Participant P13 shared,

> "Citizens were not going to tell engineers where something should be located, or whether the engineering solutions were right or wrong. Nevertheless, you had broad public awareness, newspaper reporting, and editorials, all indicating limited local opposition and significant public support. These projects were very visible at that time, and synonymous with popular ideas of 'progress'."

In contrast, Participant P11 shared, "the question is support versus participation. You probably guessed it, and they were not participating in those processes. Support was not participation. There were 40,000 people and that is great participation, but it is not a participation in the way they asked the public" To clarify, Participant P13 shared,

> "I take your point, but I think when you have that kind of public support, the public are participating as supporters of a project. We are not looking for most stakeholders to do much relative to making decisions. We look for them to provide their preferences and other input, and primarily to offer their support. We're splitting hairs."

However, in maintaining a contrary position, Participant P11 shared, "I think unless we are going to engage them actively. I do not think that has occurred. That is the difference between engaging them. I do not think that happened here." In support, Participant P8 shared, "it comes across to me as a top-down approach at its finest. The public input being limited to the vote for the water bond." Also, in support, Participant P4 shared,

> "the newspaper owners had a financial interest in the aqueduct, by the way, and engineered the whole propaganda campaign. The public opposed the project in

> local newspaper opinion sections and even tried to obstruct or destroy the construction of the aqueduct but was not successful in stopping it, which confirms what the other participants were saying that the voices of the community were not heard or listened to during this era."

Also, Participant P4 shared,

> "public participation back in the early stages, based on my reading the record was not that nobody commented. They mostly commented through writing letters to the newspapers' editor, or some people would show up at meetings. Furthermore, these things are documented, and some people put forth alternative proposals. It was maybe less robust, but there were a lot fewer people around back then. There are some pretty great examples in the record, people proposing alternatives to the channelization of the Los Angeles River and the building of the Aqueduct. But they still channelized the River, even though that the chief State and County Engineers had argued against it."

In agreement with other participants that there was little or no consideration for the voices of the community or the environment, Participant P5 shared, "Back then, both environmental impacts and impacts to poor communities were not even a consideration."

Also, in agreement, Participant P8 shared,

> "there was very little public engagement in those early days, as city fathers knew best. Thus, you have a legacy of that type of atmosphere, continuing from one generation of city government to the next and the next. It is the City 'Fathers' know the best approach."

However, in explaining the possible reasons for the limited consideration of public engagement and the environment during the hydraulic era, Participants P9 and P12 shared the following. Participant P9 shared,

> "public participation during the early stages, city founding through the 1950s, was hard. It was complicated because there was a different understanding of what the public was. For most of that period, wealthy White men counted as public, and everyone else did not count, and they were very strongly involved because the Los Angeles aqueduct was a public effort to benefit private capital. The way we understand the role of government and what, and who is the public, is different now than what it was then. So, by our standards, no, the public was not involved, but by their standards, perhaps, it was."

Participant 12 shared,

> "Because the wisdom of the time was the greatest good for the greatest number of people. Moreover, no environmental impact was considered. There were no conflict-of-interest regulations to prevent individuals from enriching themselves, making money, and selling water to the city. So, it was a much different period."

Also, Participant P12 shared,

> "There was much support to bring water to the City of LA because the alternatives were going to be more expensive, and there was not another source of water. The LA River could not sustain the population growth in the early 1900s."

Additionally, Participant P12 shared,

> "so, yes, there was support, especially from a local sense; it was a different mindset back then. They did not need support. They did not need the public per se for anything. In the best interest of the greater community or, the greater good, those that had power were able to influence politicians, at least to build the infrastructure."

In support of Participant P12's conclusion above, Participant P13 shared,

> "That is a good addition to this story because it goes to the total exploitation mentality, where no attention is paid to the long-term agricultural interests in the Owens Valley. The city, at that time, likely felt very justified in acquiring that land and those water rights."

Also, Participant P13 shared, "those purchases were made clandestinely, because if they had tried to negotiate openly, it may never have happened."

In summing up the discussion on the limited consideration of the community and the environment during the hydraulic era, Participant P2 shared,

> "from what I know about LA's history of public participation, in the beginning, there was a lot of decision making that was made by policymakers and agency officials without involving the public, of course, always were with the greater good in mind. However, it was not necessarily customary to include the public in decision making. It was more up to the engineers and the public officials to make those decisions based on their data. So, I think a lot has changed from that time. In that, over the years, we have involved the public, there have been

neighborhood councils formed and has increased participation, all the way to present time."

Retraction and Refinement Era Outcomes. The participants discussed the Retraction and Refinement Era as the era of lessening dependence on imported water supply into the Los Angeles region by the Environmental Movements Era related public activism and advocacy, through the courts, and the regulatory agencies; and as the era of implementation of refining initiatives such as water reuse and recycling; and yet as an era of continued but streamlined imported water supply dependency. The participants described the retraction and refinement era as the outcome of the nature, environmentalists, and public push back to the excesses of the extraction era, especially the hydraulic era engineers, public administrators, and policymakers; and as an era the push back led to the cut back of the amount of water that Los Angeles can import from Owens Valley and other regions. The participants described it as an era of addressing the social and environmental impacts of decades of water withdrawal and export to Los Angeles, which started during the hydraulic era. In agreement, Participants P1, P8, P11, P17 discussed the retraction era in the following manner. Participant P1 shared,

> "So, there has not been much transparency when it comes to water. As a result, the City is spending a billion dollars more on infrastructure up in the Owens Valley to address fugitive dust emissions because of all the water taken out of the lake."

In agreement, Participant P8 shared,

> "fast forward to 2020, much of the water that we counted on from the Owens Valley, now stays in Owens Valley, specifically, because of the Hydraulic Era activities. So that is a way of public engagement through the courts and the regulatory agencies that are coming to bear against the water agencies."

Participant P11 shared that "up until 1970 we were in an era of extraction, meaning imported water diversions into urban areas flourished without much consequence or consideration to the environment – thus the era of extraction." Additionally, Participant P11shared,

> "beginning around 1970 the consultation/mitigation of these actions to the environment, as constituted by new laws, now had to be considered which began the era of retraction or maybe the era of refinement as it relates to importing water…"

Participant P17 shared, "the City, of course, built the system. Unfortunately, at that time, we were not sophisticated in our evaluation of environmental impacts, but overtime we learned more and started adjusting to addressing the environmental impacts."

The eleven category themes of the retraction and refinement era outcomes discussed by the participants are presented below, and they include the following:

- The retraction era.
- The refinement era.
- The environmental movement era.
- The environmental movement related public activism and advocacy.
- The climate change factor.

- The environmental movement era provided legal footing for local activism and advocacy.
- The Owens Valley, Mono Basin, Bay Delta activism and advocacy.
- The Los Angeles area activism and advocacy.
- The outcomes of reactions to the environmental movement era.
- The imported water dependency era.
- The sample-specific outcomes of the retraction and refinement era.

The Retraction Era Outcomes. The participants discussed the retraction era category theme as a key component of public participation and engagement in Los Angeles water resources management. The participants discussed it as the period when Los Angeles had to reduce the amount of water being imported and began to lessen dependency on imported water supply by seeking out sustainable alternatives and exploring local options. Participants P10, P11, P12, and P13 discussed how Los Angeles lost a significant amount of water supply to activism and advocacy by the residents of the impacted communities through the courts and rooted in the environmental movement era legislations and agencies. According to Participants P11, We did not see the material effects of these new environmental laws era of the 1970s on imported water diversions until the early 1990s and the following were key outcomes of public engagement and activism during the retraction era that would change how Los Angeles manages water resources:

- The 1960s and 1970s Environmental Movement Era, in about the time of the Civil Rights Movement and preceded by the Women's movement and the

Progressive Era, produced the key legislations and agencies that were key to the reduction of Los Angeles' ability to import as much water as before. The key legislations were the 1963 Federal Clean Air Act and the Federal 1973 Endangered Species Act. The key agencies were the United States Environmental Protection Agency, the California Environmental Protection Agency, and the California State Water Resources Control Board.

- The 1974 establishment of the Great Basin Unified Air Quality District, a Joint Power Authority/Agency (JPA), was the start of the air quality movement of Owens Lake.
- In 1975, David Gaines, the founder of the Mono Lake Committee, started the Mono Basin movement. The 1963 Federal Clean Air Act was key to the Owens Lake air quality issues and Mono Basin related to retraction of imported water supplies for the Los Angeles region.
- In 1983 California Supreme Court ordered public trust doctrine towards the water rights and diversion, to Los Angeles, from the Mono Basin. As a result, the State Water Resources Control Board assigned diversions for the Mono Basin based on air quality, and Los Angeles lost two-thirds of its water supply for the Mono Basin. Los Angeles lost ~60,000-acre feet of water and has spent one to two billion dollars trying to figure out alternative ways to keep the dust down - implementing dust mitigation measures.
- In ~2012, Judge Wanger applied the Federal Endangered Species Act to the California Bay Delta (delta smelt) and ordered less water diversion to restore

> the delta smelt. The Judge Wanger decision by itself was a quick one stroke of the pen that led to the reduction of approximately 33% of the water that Los Angeles used to import from the California Bay Delta region.

Also, Participant P11 shared,

> to every one of those environmental issues and related local public engagement, advocacy, and activisms through the courts and the regulatory authorities, Los Angeles lost. Furthermore, to every one of those sources of water, the Los Angeles region lost full access to the amount of water it used to import from the area, hence, the retraction era and its outcomes.

In describing the retraction era outcomes, Participant P8 shared,

> "there were certain challenges, legal challenges, to the environmental impacts related to water exports. There were fish kills, impacts to wildlife, and all these kinds of things. And so there began to be more of an engagement through the legal framework, and through the regulatory framework, in terms of saying, OK, City fathers, you cannot just do what is best for the public. You must address these impacts that are occurring because of your water-gathering activities. Thus, these have been monumental outcomes that have shifted the amount of water that, in our case in Los Angeles has been able to harvest and bring to Los Angeles."

Also, in describing the retraction era outcomes, Participant P9 shared,

> the retraction era "was an effort to kind of deal with the fact that the natural hydrology was both of being overwhelmed by the city and overwhelming the city. On the water supply side, the city was overwhelming the natural hydrology. On

> the flood side, the natural hydrology was overwhelming, the city. That was the flooding that would bury the city every couple of decades or so," thus further describing the retraction era.

However, Participant P4 shared,

> "regarding the flooding statement, Los Angeles saw major flood events in 1825, 1862, 1914, 1933 & 1938, so not exactly every 20 years. Of course, the insane 1862 flood had a statewide impact, but in the 1800s there wasn't much of a City to bury and based on the County Engineer's report of 1914, floods were by and large still considered natural and overall beneficial. Most of the impacts from flood events in the 1900s was to poorly designed bridges and some ill-conceived development. Most of the mortalities from the '38 flood were from one location and human error up at Big Tujunga Dam played a role in the damage. Did waters rise? Yes. Was the city buried? Hardly. Los Angeles never suffered nearly the kind of flood damage that places like the Midwest and the Carolinas have (not to mention dozens of other places around the globe). And we could have implemented the Olmsted Plan & other measures to restrict development in floodplains. But no. Easier to justify all that concrete and the waste of our local water resources by calling it catastrophic."

Refinement Era Outcomes. Participants discussed the category theme of the refinement era as one of the key components of public participation and engagement in Los Angeles water resources management. The participants defined the Refinement Era as when several water resources initiatives were taken or began and continues to the

present to compensate for the lost amount of imported water that occurred during the Retraction Era – hence a subset of the Retraction Era. Some of the initiatives that the participants discussed include water rationing, water conservation, stormwater management, and tiered water billing rate structure, reuse, storage, recycling, and groundwater recharge, integrated resources planning and adaptive management. In describing one of the key components of the refinement era that have resulted in Los Angeles using less water, Participant P11 shared,

> "1990 or maybe 1991 was the year that Metropolitan Water District voted to ration water and that was when the conservation era really began, so the era of conservation was a subset of the era of retractions. That is when we have low flow toilets, low flow showerheads, eventually behavior change, and we have evolved substantially since then."

In agreement, Participant P8 shared,

> "Angelinos have saved water through their behavior by using low flow devices, low flush toilets, and in the more recent years, reducing the need to irrigate outdoors, switching from water-intensive landscaping to more water-efficient landscaping. These are all choices that consumers have made, and it has resulted in Los Angeles's ability to use less water today, even though there are a million more people in the city of Los Angeles. The public perception issues still need to be addressed, but Los Angeles sees, in certain venues, that the public has a little bit more receptiveness to the idea of using recycled water for drinking water purposes than in the 1990s.

As a result, Participant P8 shared that "the City of Los Angeles is continuing the strategy of developing its conservation efforts to the extent that the public is accepting of alternate sources of drinking water supply."

Environmental Movement Related Public Activism and Advocacy Outcomes. The participants discussed the retraction era as starting with the environmental movement, in the 1960s, towards the end of the hydraulic era, through the 1970s. As a result, the participant discussed the environmental movement era as a subset of the retraction and refinement era, therefore, they are discussed interchangeably here, with the environmental movement being the foundation of the retraction and refinement era. The environmental regulations and agencies established during the environmental movement were key in producing the retractions in water supply exports to Los Angeles that triggered the retraction and refinement era, through public activism and advocacy. The goal of the retraction era is also the goal of the environmental movement era and that was to address the externalities or the limited considerations for public participation and environmental impacts of the hydraulic era large system of interregional water infrastructure projects that can take a drop of water from hundreds of miles away and bring it to Los Angeles.

The participants described the retraction and refinement era by the following other names based on how the public participated in the retraction era outcomes, of which environmental movement era concerns or issues dominated: the environmental movement era, community activism and advocacy era, the legal framework era, and the environmental legislation and regulatory agency era. The participants discussed that

increased role of grassroots community coalitions individuals, nonprofits organizations, and the courts were witnessed and experienced during the retraction and refinement era. The participants discussed that the era was viewed as the refinement era because of the many initiatives and programs that were advocated by the public and implemented at the time, such as water conservation, water recycling, zero wasted water, One Water, integrated and adaptive management, and the early and continuous consideration of the residents and the environment as key stakeholders in public decision-making processes and regulations, not as afterthoughts. Also, the participants described it as an era of continued but streamlined or retracted imported water dependency, a legacy of the era.

Participants P9 and P11 described the retraction and refinement era's environmental movement and public activism and initiatives as the era of environmental, racial, and gender equity that is a step away from creating human hydrology as was done during the extraction era.

Environmental Movement Era Outcomes. The participant spoke of the environmental movement era as the awakening and national environmental awareness era because of the many national and state environmental agencies created, and legislation enacted. In agreement, P4 shared,

> "there was sort of awakening around that time a Republican administration was the progenitor (founder or originator) of the Clean Air Act, Safe Drinking Water Act, Endangered Species Act, the National Environmental Policy Act, and the US Environmental Protection Agency (EPA). The EPA was born of the Nixon Republican Administration. It was a political move on his part; it was not like a

> heartfelt personal kind of thing, but suddenly, it was an unarguably evident that nature was fighting back against our big push to control nature, and it was destroying communities' health. Furthermore, it was visceral. I do not know how many of you are old enough to know. I grew up here. It was Orange skies. It was you could not play on the playground; you could not see the hills most days. So, these were visible, palpable impacts to communities and not only communities of color."

In discussing how important the environmental movement was and the many outcomes achieved, Participant P11 shared,

> "It is simply down to environmental movement and climate change. Those two have materially affected the way we approach water resource planning. It is all underpinned on to the environmental movement. The environmental movement started in 1963 with the first real environmental law, the Clean Air Act. Then you have the (California) 1969 Porter-Cologne Act and the establishment of the State Water Resources Control Board and the Regional Boards to firmly enhance regulation of water rights and water quality. Originally, drinking water was not included, but under the (California Governor) Brown administration, it was moved under the Stated Water Board and changed from the Department of Public Health, as new to the Division of Drinking Water. In 1970, the California Environmental Quality Act was first enacted and the National Environmental Policy Act in the same year. In 1972, the Clean Water Act was established. The

1973 Endangered Species Act and the 1974 formation of the Great Basin Unified Air Pollution Control District then materially affected Owens Lake diversions. Discussing the environmental movement era as people feeling poorly represented, Participant P9 shared,

> "the movements of, the 1960s were related to environmental degradation, and of course the Vietnam war. Like in the United States, much of the activism, much of the active engagement from the 1960s, really came out of a resistance to that war. So, no, it was not an example of the people feeling themselves. It was an example of the people feeling poorly represented. I think what is different today, is that the problems are not quite so universal. The climate change itself is universal, but the impacts of climate change are not, in the same way that of air pollution."

Climate Change Factor. The Participants P10, P11, P12, and P13, discussed that what has driven and materially changed how Los Angeles water resources are managed is factoring in climate change on the extraction and retraction eras. Participant P11 shared,

> "what is driven is that climate change on top of the eras." The Los Angeles area water infrastructure projects were built within the first 50 years of the 20th Century, from 1900 to 1950. As it turns out, looking at hydrology and comparing that century's hydrology to the past 1,200 years showed the 20th Century as the wettest. So, the Los Angeles water infrastructure projects of the hydraulic were built around, even pre-climate change, wetter climate, than the previous 1,100 years. Now layering climate change on a significantly drier climate and adding

> that to the environmental movement and that have materially changed the way Los Angeles manages water resources."

Environment Movement Provided Legal Footing for Local Activism and Advocacy. The participants spoke of the environmental movement era as public activism and advocacy at the national level that encompassed other movements that provided the local activism and advocacy with the agencies, legislations, and legal footing to engage. In agreement, Participant P4 shared,

> "there was much involvement, and Sierra Club was born in that moment, as well Greenpeace, Rainforest Action Network, and others as well. There was much activity, which I think was disbursed amongst much social upheaval that was going on. It was not as siloed out as it is right now, necessarily. I think in my growing up, it was part of the larger movement for racial and social justice and environmental justice. It was all one big thing, and we were not calling it anything other than just 'the hippies.' So that was my experience of growing up."

Also, in agreement, Participant P5 shared,

> "Sierra Club is very well known for their lawsuits and litigations, but that is not how you want to fight something. Who can fight those things? It is not the mom-and-pop stall at all. It must take a huge organization on two sides of those issues. It is unfortunate that is where we are."

Owens Valley, Mono Basin, Bay Delta Activism and Advocacy Outcomes. Participants point out that activism and advocacy in the Owens Valley and Mono Lake Basin, through the regulatory framework and court decisions, have resulted in a

significant reduction in the amount of water that Los Angeles can import from that region. To illustrate, Participant P11 shared,

> "David Gaines, the Mono Lake Committee founder, started the Mono Basin movement in 1975. The 1963 Federal Clean Air Act was key to the Owens Lake air quality issues and Mono Basin as it related to retraction of imported water supplies for LADWP. The air quality issues was about the exceedances and intervals of PM-10 or particulate matter larger than 10 microns, i.e., dust in the air because of exposed playa or drying of the lakebed shore. The PM-10 were regulated because of air quality standards. The1973 Endangered Species Act, was a critical law, applied to the Bay Delta (delta smelt), by Judge Wanger (~2012), who ordered less diversion of imported Bay Delta water to Los Angeles, to restore the delta smelt. In 1974 the Great Basin Unified Air Quality District (Authority) was established as a joint power authority (JPA), which started the air quality movement of the Owens Lake. In 1983 California Supreme Court ordered that the public trust doctrine applied towards the water rights and diversion of LADWP from the Mono Basin. The order to apply the public trust doctrine ultimately led to ~ 2/3 reduction in exported water to Los Angeles, from the Mono Basin (100,000 AFY to ~33,000 AFY)."

To clarify, Participant P11 shared,

> "to every one of those environmental regulatory laws, you can pinpoint every one of those sources of water into the Los Angeles region, we lost. Judge Wanger's (~2012) decision by itself was a quick one stroke of the pen and 33% of water

> gone, and that came out of the Endangered Species Act. If you look at Mono Basin, Los Angeles has lost two-thirds of its supply for Mono Basin based on the public trust doctrine. That is a force of the California Supreme Court decision in 1983. We lost 60,000-acre feet of water to Los Angeles forever. That caused the retraction and now adding to it is climate change uncertainty. Los Angeles has spent one to two billion dollars on the Owens Lake dust mitigation issues, figuring out alternative ways to keep the dust down."

In conclusion, P8 shared, "fast forward to 2020, much of the water that we counted on from the Owens Valley, now stay in Owens Valley specifically because of an era that you are talking about. So that is a way of public engagement through the courts. Moreover, the regulatory agencies that are coming to bear against the water agencies."

***Los Angeles Area Activism and Advocacy Outcomes*.** In discussing the Los Angele area activism and advocacy outcomes, the participants described it as the individual, community groups, coalitions, and local nonprofits era**,** in recognition of the parts they played in Los Angeles water resources management. Setting the tone for the discussion, Participant P6 shared,

> "Sparks to me, memories of Dorothy Greene, starting in her kitchen, trying to clean up the Bay, that is, starting with a bunch of really concerned citizens. The public, at this point, was crying out for those laws that were put into place for Clean Water to be put into effect, and agencies must have to put their money, where their mouth is and follow these laws. Thus, that gave rise to the consent

decree that forced the Hyperion Water Reclamation Plant to upgrade around that time. That was big for wastewater."

The participants shared that participative integrated resources planning, and adaptive management principles of water resources management thrived during the Los Angeles local activism and advocacy era of the 1980s through the 2000s and wished they had continued unadulterated or unaltered. Accordingly, Participant P4 shared,

> "the City of Los Angeles Integrated Resources Planning (IRP) for the Wastewater Program ended a year or so before Dorothy Green passed away in 2006. So, the IRP set the stage, and then they set it aside, and One Water LA Program is not an integrated plan, and the county has decidedly gone back in the other direction."

The successful court outcomes enjoyed by the individuals, grassroots community organizations, coalitions, and the nonprofits were partly because the environmental movement era agencies and regulations, such as the Clean Water Act and the Clean Air Act, gave them the legal footing. In agreement, Participant P4 shared,

> "the Clean Water Act, and Clean Air Act gave interested people, legal tools, to address the issue. So, we had regulations, and folks wanted to ignore them, or did not have the tools to comply or just flouted. Thus, this was how organizations and communities engaged. So, it put us in this legal framework. It gave us many wins, and it made it clear that people had to change, or we continue to refine the rules."

However, the participants discussed that not all local activism is litigative. So, besides relying on the agencies and legislation of the environmental movement era, local

advocacy groups and nonprofits relied on their membership networks and partnerships with other groups and coalitions for successful outcomes. In agreement, P6 shared,

> "We leant a lot on our membership. We were not as litigative, but we had to run campaigns to spark awareness and get numbers behind us. When we go to the Water Board, speak on behalf of our 14,000 members, that kind of thing. It means that the demographics of those members did play a role in kind of how the organization operated also relied on your partnerships we try to put the scientific basis of the policy recommendations, there was that piece, too. There was also a big push for numeric standards, new permits, things that you could have that still carries forward today. That is still something that organizations push for."

In describing Los Angeles local activism and advocacy, Participant P9 shared,

> "I look around the landscape, and wherever I see a nonprofit, I see a government failure. It is a spot where the government has failed to do something well, so a nonprofit has grown up to do it instead. From that perspective, came Andy Lipkis and Dorothy Greene, like that crowd. They come out of sort of a liberation ideology of the 1960s, and a technical competency, which was not normally outside of government. It is an interesting moment because they came in, and they pressed. They pressed from two dimensions. Like the technical, they have the technical competency and the sense that things could be better, and they went to work on trying to change the public administration rather than try to change the politics."

Also, Participant P9 asked, “why did the move of that early 1980s technical? Why was it a technical advocacy? Why was it directed at the public administrators rather than the elected representatives? I do not know.”

Outcomes of Reactions to the Environmental Movement Era. Participants discussed the outcomes of reactions to the environmental movement era as disinvesting in the communities and environment, encouraging individual freedom, and discouraging public participation. In agreement, Participant P15 shared,

> “it was from the 1960s to the 1980s. You certainly have the 1960s (polluted resources and environmental movement). And then you had sort of the reaction to the 1960s, which was like the Howard Jarvis taxpayers’ revolt, which led to Reagan and Reaganomics, and, frankly, were about de-investing in communities, de-investing in the environment.

Also, the participants discussed the outcomes of reactions to the environmental movement era as hollowing out of the state and a deepening commitment to Freedom at the individual level that deemphasized and discouraged the role of public participation. In agreement, Participant P9 shared,

> “Now, there is a debate, the Environmental movement, the women's movement, the Civil Rights Movement Agenda issues, then what is called the neoliberal era in the United States. Starting in the late 1970s and then gaining speed during the 1980s, particularly with Reagan's administration, there was a hollowing out of the state and, a deepening commitment to Freedom at the individual level; you are

> free. Your liberty is a personal thing that relies on no responsibility to others, and then if everyone takes care of themselves, everyone will be OK."

Additionally, Participant P9 shared,

> "It deemphasized and discouraged the role of public participation that pushed so much through in the 1960s and early 1970s. So, it was an intentional act by those whose power was threatened by a more engaged public to disengage the public as often as possible."

Imported Water Dependency Era Outcomes. The participants discussed imported water and related dependencies as outcomes of public participation or the lack of it in the Los Angeles water resources management, particularly, during the extraction and hydraulic eras. The participants discussed the future of imported water dependency and debated if there is an end in sight or a way forward. In discussing the way forward. Participant P9 shared,

> "as a critical component of our water supply portfolio, we will always use imported water here. We will be able to use less, or in the years where there is less available, we will be OK without it. Furthermore, in the years where there is more available water, we will take it and store it for the dry years. That is the direction we are heading. We will never give up or stop imported water. We will come to rely on it."

The participants shared views on the factors perpetuating imported water dependency, which they believed that the residents of Los Angeles and all levels of government need to address, using existing and new technologies., Participant P6 shared, "We have

challenges with legacy pollution: huge basins to store water supply in San Fernando Valley, but they are all polluted and we also have new pollution coming in the form of no contaminants of emerging concerns." Participant P3 shared, "there are technological challenges, in the research and understanding of technology and reuse as an alternative to imported water. I do not think there are technical challenges, but there might be hurdles in terms of public acceptance." P8 shared, "the challenge with reducing our reliance on imported water is to develop our local resources fully."

Imported water dependency remains, but is retracting, with emphasis being placed on local supply sources, water recycling and reuse, addressing legacy pollutions, water conservation, integrated and adaptive management, sustainability, and resiliency planning. In this regard, Participant P1 shared,

> "the biggest theme that kept coming up throughout the water effort was, why don't we recycle the water from Hyperion Water Reclamation Plant? Because of the public pushing for this throughout the years, we committed to recycling 100% of our wastewater by 2035. Moreover, that is our goal."

However, Participant P4 shared,

> "I'm all for water recycling. Looking forward to advancements in technologies and regulations so we can get to direct potable reuse. But don't you find it interesting that people have been pushing for restoration of our waterways just as long, and that we know that would help preserve our local water resources by recharging groundwater, and improving water quality and creating park space, and improving air quality, and cooling communities, and increasing biodiversity,

> and sequestering carbon, but no one has committed to doing anything about that? The current plans for (recycling 100% of wastewater at) Hyperion Water Reclamation Plant are pretty much single purpose and insanely expensive - both financially and from a carbon accounting perspective. And they will do nothing for encouraging wiser water use overall. Not to mention the fact that we don't know enough about how to treat emerging contaminants of concern."

So, participants discussed that the challenge remains the costs and environmental impacts of implementing the options such as the 100% recycling at Hyperion Water Reclamation Plant, the tunneling of Bay Delta near San Francisco to Los Angeles, etc. Participant P17 shared,

> "the biggest challenge is the cost of a new system that has to be integrated into our current water treatment and distribution system that is energy intensive. However, this is a sustainable option that must be pursued for the benefit of the region."

Participant P9 shared,

> "On the transition to recycling, it is a little bit more attenuated what the public role is. I mean, in the past, attempts to head this direction have been met with public resistance for lack of understanding about the safety of recycled water."

In discussing that these options, though expensive and impact the environment, are sustainable options that have become more publicly acceptable, particularly, given existing and new technologies, Participant P2 shared,

> "for years, we had thought that (100% recycling of our wastewater) may not be feasible or cost-effective because of how much water involved and the potential for causing significant environmental disruptions when trying to bring back the recycled water through the densely developed and populated City to the customers upstream. However, now with new technologies and increasing public support and acceptance, the City is looking forward to implementing 100% recycling of wastewater, under the leadership of the Mayor and his Green New Deal team."

To summarize that public engagement in every aspect is needed to lessen imported water dependency, Participant P2 shared,

> "we made sure that they are involved in the communication with the state and the regulators. They show up at the regulator meetings and make sure that we are informed about our water use impacts on the communities. We made sure that we are involved in those solutions to mitigate those impacts, becoming more involved with regional efforts. Furthermore, that we are doing the most we can to reduce our dependence on imported water, not just because it benefits us, but because it benefits their communities where we get our water from."

Sample Specific Outcomes of Retraction and Refinement Era. Participants discussed a guided optimism, but a generally positive impression of the outcomes, of public participation in Los Angeles water resources management. Participant P18 shared, "public participation plays a role, but even so, it might not have changed the outcome, as

much, given the circumstances, at the time, and the public understanding, and their ability to foresee totally what is beyond their present circumstances."

The participants discussed the following seven example successful outcomes of public participation and engagement in Los Angeles water resources management that occurred during the retraction and refinement era: (a) Measure W – The Safe Clean Water Program bond measure passage, (b) great streets stormwater program bottom-up approach, (c) development of One Water concept, (d) successful leadership by elected representative and other influencers, (e) successful water recycling outreach, and (f) outcomes of reactions to certain triggers.

Measure W – The Safe Clean Water Program Bond Measure Passage**.** The participants discussed that some of the tangible results of the "Measure W," were results of public participation. For example, Participant P2 shared,

> "all of the major achievements, in the last few years, including the passage of Measure W - the Safe Clean Water Program, which was the most recent achievement, were results of the public participation process. With that passage of that measure, we can fund projects to capture stormwater, not just for water quality, but for water supply, as well as for flooding benefits in decreasing flooding. So, there is going to be a lot of tangible results from that funding measure."

In agreement, Participant P9 shared,

> "the Safe Clean Water Program is a victory. It is one model of what is a restoration of the political process, where the voters together say what they want.

> They work through their representatives to get it. They vote to fund it, and off it goes."

Also acknowledging that public participation, in the form of coalition involvement, was critical to the passage of Measure W, Participant P6 shared,

> "as a success in that without having that coalition, I do not think that Measure W – The Safe Clean Water Program would have passed, and that was a significant funding measure for multi-benefit projects, and… that is important to note at the city."

However, not all participants considered Measure W's success as a grassroots public participation victory. For instance, Participant P4 shared,

> "the County spent $12M+ on a public relation campaign, including large sums to a handful of NGOs who represented themselves as "of the people" and got folks to the polls, but in the end, were therefore constrained from advocating for some of the more meaningful – and also the most highly advertised – benefits of the program. Specifically, the prioritization of nature-based solutions and actual benefits to communities. These aspects are not well embedded in the final measure, and most projects funded to date do not provide either. I mean, it is let us pat ourselves on the back for something that would not in truth deliver on its promises."

Also, over 15 years ago, everyone talked about the passage of the $500 million Proposition O water bond as one of the successful outcomes of the City of Los Angeles's Integrated Resources Program. However, participant P4 shared,

> "remember Prop O? 15 years ago, it was all anyone would talk about. But in the end, what we got for half a billion dollars; besides a cleaned-up Echo Park Lake and the troubled South LA Wetlands, no one can tell you. I mean, none of it was monitored, so no one knows what, if anything, it did to help LA meet their Total Maximum Daily Loads (TMDL) goals. I expect we will see the same, if not worse from Measure W. Because this time it is funding so much concrete and steel, exacerbating climate change, rather than helping us mitigate and adapt to it. And the program is structured to mimic the County's Integrated Regional Water Management (IRWM), which is the antithesis of an inclusive, transparent process. So, the notion of participatory engagement is not in the least applicable to the implementation of Measure W's Safe, Clean Water Program."

The Great Streets Stormwater Program Bottom-Up Approach. To illustrate another example successful outcome of public participation and engagement in Los Angeles water resources management that occurred during the retraction and refinement era, Participant P6 shared,

> "I agree with a fellow participant that too many times people try to outreach from top to bottom, but our great streets stormwater program kind of shifted the way they did things to try to incubate from the bottom up. So, they have community organizations (coalition) come up with the projects and apply them into the program, as opposed to say, here is a project, we are going to impose it on your community without seeing what you (the community) know. So, this would be an example of stakeholder involvement."

The Development of One Water Concept**.** The participants also discussed the development of the "One Water" Concept as another example successful outcome of public participation and engagement in Los Angeles water resources management that occurred during the retraction and refinement era, but with a note of caution. For example, Participant P14 shared,

> "We are having conversations about One Water, everybody is promoting the One Water concept as that which includes recycled water, potable water, imported water, rainwater, but where does the water go? Nevertheless, we also got to think about "one-infrastructure," that carries that One Water because we got to think about how the water is transported or distributed and to whom. If you take care of the pipes in the city water distribution system that gets the water to people's residences or premises, but do not take care of the aging premise plumbing, it is conceivable that the water still comes out of the tap not suitable for drinking. This is a potential problem of dual infrastructure systems we have in Los Angeles."

In another cautious note about the One Water concept, participant P4 shared, "the concept is nice, but it did not originate here in Los Angeles. The Integrated Resources Plan was a much better process and it resulted in a better product." Also, in a cautious discussion of the One Water concept and message, Participant P1 shared,

> "How do you handle the issues of continuity and coordinated messaging, like when the City's champion for One Water left for another office, and the City's One Water program was without a champion, got renamed, and message diffused? The City of LA was a big proponent of One Water, but now they have

> changed, and now it is not a One Water message. They now have 'no wasted water.' The gentleman that was the champion of a One Water messaging moved over to another agency and there has not yet been another champion who has emerged to lead. So, the One Water messaging that was developed to unify City of Los Angeles in terms of stormwater, wastewater, recycled water, potable water, groundwater changed, and the One Water message is not anymore, as a result."

However, the participants were still generally positive that the development of the One Water concept and the One Water programs were successful outcomes of public engagement in Los Angeles water resources management. In support, Participant P14 shared,

> "regarding how effective City and County One Water programs are, I think nonprofits who have dedicated a lot of sweat and blood to engage the community have moved the needle on public participation. The county and other entities have gotten much better at public participation."

In another positive note about the success of the One Water programs and message, Participant P17 shared, "I think the City of Los Angeles One Water program has received much coverage, and many people understand it, and I think it is a tremendous effort, so, are all the other similar efforts."

Successful Leadership by Elected Representatives and Other Influencers**.** Participants P10, P11, P12, and P3 shared successful public participation efforts by multiple water agencies that reached out to the public through such influencers as opinion

leaders, elected representatives, chambers of commerce, etc. In leading this discussion, Participant P11 shared,

> "it makes sense, yes to identify 'influencers' and then, it must be done by the agency representatives, not the consultants. Then, at the end of the day, obtain from them a 'charter' statement or a letter for support, in writing. Now there is the 'multiplier effect,' zero opposition on that project, absolutely zero. Now, that takes a lot, but that is the way I would say public engagement should be targeted. The multiplier effect is the best approach. The Orange County Water District did that. They were reaching the public through all the influencers that the public interacts with. And so Orange County turned their whole public engagement of how to turn sewer water into drinking water through the support of the influencers and public opinion leaders and as it turned out there was zero opposition to their potentially controversial project. It is impossible to reach all the public otherwise. Now let us talk from there. West Basin Water District used the same approach for ocean water desalination, to obtain support in writing from the public opinion leaders including elected representatives, unions, religious leaders, chambers, and so on. Once support is in writing it allows you to utilize their influence unequivocally. And then you do that; that is the multiplier effect. That is the most effective manner to educate because you have got a personal conversation, to multiply influence in the community. So, you must understand your customer base to define your strategy, as well. Orange County did and was transparent with the public from the very beginning."

Successful Water Recycling Outreach. Participant P10, P11, P12, and P13 shared about how the City of Los Angeles plans to successfully engage the public through elected representatives, while also reaching out directly to everyone by sending written public notices of the City's planned 100% wastewater recycling project at the City's Hyperion Water Reclamation Plant. According to Participant 10, who led this discussion,

> "the notices will be sent "to every single resident and by reaching out to over 100 Neighborhood Councils in the City that represent various communities within the City of Los Angeles. The Neighborhood Councils that are active are the ones that we need to initially reach-out to say, OK, we have this program, we have this vision, help us get the message out there, and help us get the public to participate, and let us know what they like to see. So, working through these Neighborhood Councils has been an effective way that we used in the past to try to get our recycled water projects and other projects out there so that at least the leaders of the communities have the information and hopefully get the message out that way." Further, P10 shared, "so, Los Angeles is over 3.5 million residents. It will not be possible to reach every resident to get them involved, but you work through these ambassadors, as I call neighborhood councils, NGO groups, and people that we already know out there that are taking an active interest in what we are doing. That is the best strategy to use, to get the public participation that we are looking for."

Also, in discussing a collaborative multiple water agency successful public participation and engagement effort for furthering recycled water use in the region, Participant P2 shared,

> "in the mid-2000s or maybe later, we collaboratively, the Los Angeles Sanitation and Department of Water and Power started a recycled water advisory group, with the main purpose of working with communities in creating advocates and furthering recycled water use in the region specifically the groundwater replenishment projects. So, the groundwater replenishment project is moving forward because we did the recycled water advisory group, and because we took that the time to build trust and relationship with our communities, to the point where they support the project. We now are working on upgrading our Donald C Tillman Water Reclamation Plant to Advance Treatment to be able to implement this project and to inject recycled water into the groundwater."

Outcomes of Reactions to Certain Triggers**.** The participants shared and believed that public reactions to certain events and triggers, intended or not and desired or not, tend to lead to successful public participation outcomes. The participants discussed that the public tend to participate and engage more, at the time of transforming events and triggers such as disasters, rationing, droughts, pandemic, etc. Participant P7 shared, "because we were told to use less water or our rates might have to go up, my household and many others in the community listened and conserved more water and reused more water." Participant P11 shared,

> "there were tons of media messaging because there were severe droughts, and so the residents listened, almost like the pandemic in some ways, and that is the time that you have a public engagement, at the time of transformation and triggers.

Additionally, Participant P11 shared,

> "So, it is a reactionary society. The environmental laws that were written and enacted all caused a reaction or chain reaction. They are policies intended to cause a reaction. And they did later, in a monumental manner, by returning what was at one time viewed as reliable water imported into the LA region, back, in some cases substantial amounts, to the environment. Each new law caused a domino effect, but it was not until sometime much later that forced a reaction and changed behaviors, in some cases over 20 years after their promulgation. I really believe it takes around 10–20-year period after promulgating new environmental laws to really have a material effect."

The Expected Future Era Outcomes That Hold Promise Today. With hope in what is happening in our world, the participants shared insights into the expected future outcomes of public participation and engagement in Los Angeles water resources that are being crafted, today. Participant P14 shared,

> "it is better to phrase the future as this sort of arc that is taking us there, but that is not where we are yet. That the arc of One Water and public participation is taking us towards a place where more people can be heard, more people can stay committed, but maybe that is the goal, as opposed to where we are already."

Participant P15 shared,

> "as to where we go from here is a piece that we are crafting now or provide people with insight on. One of the pieces that are being crafted now is recognizing equity, race relations in environmental issues, climate change impacts, and supporting sustained public engagement."

Participant P16 shared,

> "about race relations and environmental issues, the Sunrise movement is this grassroots organization that works on the Green New Deal and promoting climate change awareness for all levels of government, offers no strings attached scholarships to Black indigenous people of color who are the organizers throughout the entire country. Furthermore, by providing financial compensation for their efforts to work on climate activism, they have a much stronger foundation than being burnout and therefore stay involved for longer times."

Participant P14 shared,

> "nature will always win. When dealing with water issues, we need to work more on people management, not water management. We need to find better ways to interact with it. So, I think there is an opportunity with what is happening in our world today."

In discussing a potential model of the future, Participant P9 shared, "the other potential model for the future is the technical partnerships starting to be more rigorous." To explain, Participant P9 shared,

> "the examples are the Metropolitan Water District and Los Angeles County Sanitation Districts working together to generate recycled water. The City of Los

> Angeles Department of Water and Power and Los Angeles Sanitation and Environment are working together to generate 100% recycled water as part of the City's Green New Deal plan under Mayor Garcetti. Alternatively, the most recent example of future partnership is that the Metropolitan Water District, in Los Angeles, is now or may be planning a partnership with Las Vegas, the Nevada Water Authority, where Nevada will pay Metropolitan Water District to produce recycled water and then take less from the Colorado River so that Nevada can have it instead."

Additionally, Participant P9 shared,

> "so, you are getting these very sophisticated partnerships between these broad regional governance entities. So, and maybe both things will be true going forward, we are heading into a much more sophisticated era of partnership, collaborative work, where people are connecting outputs and inputs much more effectively than in the past, which is the Dorothy Green model. Furthermore, I do not know which way it is going to play out, and it is probably going to be a little bit of both."

Evidence of Trustworthiness

Credibility

Credibility strategies state in Chapter 3 were implemented in the following manner. As suitable for a qualitative study, triangulation was implemented between the observation notes and the interview. I conducted members to check in more than one way. First, prolonged contact of hours and days, instead of prolonged engagement of

weeks and months with participants, provided room for more dialogues and clarification of captured responses. Second, by flow up emails to participants seeking confirmation of responses and requesting supporting information to understand participant responses better. Third, by member checking to test veracity of the data, analytic categories (e.g., codes), interpretations, and conclusions. Credibility strategies implemented also include conducting more interviews and one other focus group of water agencies managers that was not anticipated in Chapter, a total of nine participants more than the 10 stated in Chapter 3 that provided that shared benefit of more insight into the issues and increased corroboration of other participant's information or the reason why not. Saturation was reached when the understanding being sought began to repeat or when the same stories, themes, issues, and topics emerge from the interviewees (Boyce & Neale, 2006).

Transferability

The appropriate strategies to establish transferability included a full description that specifies the minimum elements necessary for re-create findings. The strategy also included a detailed description of the participants, procedures, and context to enable others to judge other possible application sites' similarities. As another strategy for achieving transferability, the research findings were made available to other areas of comparative contexts, situations, and people - conditions similar enough to make findings applicable, to use as they see fit.

Dependability

The appropriate strategies used to establish dependability included audit trails related to recording the raw data; process and products of data reduction, analysis, and

synthesis; methodological process notes; reflexive notes; and instrument development techniques. Dependability was also established by triangulation to account for instability and change within the natural context. Also, naturally occurring phenomena were documented to establish stability and change.

Confirmability

Consistent with Chapter 3, the appropriate strategies used to establish confirmability related to the capacity to authenticate the internal coherence of data, findings, interpretations, and recommendations included documenting the researcher as an instrument and potential bias sources. The confirmability strategies applied also include keeping reflexive journals that consist of the researcher's notes and the documentation of my thinking throughout the research process. No adjustments to consistency strategies stated in Chapter 3 were necessary or made.

Summary of Emergent Themes—Study Results

The emergent themes from data analysis summarized here addressed the research question, which explored the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management. Also, the summarized themes address the gap in the literature on Los Angeles specific public participation experience in water resources management, from participants' perceptions that shared to what has already been researched. The summarized emergent themes present a deeper understanding and awareness of why Los Angeles water supply now depends less on imported water supply from outside the Los Angeles region, an outcome of the continuing individual and collective roles of public participation to maintain a sustainable

balance – the balance between water supply need and other needs of the community residents, environment, and the economy.

The data analysis key outcome is the emergency of three overarching themes: the roles, effectiveness, and outcomes of public participation in Los Angeles water resources management. Except for one discrepant case, this outcome confirms three out of the four prior themes identified in the literature, which were based on the research question - the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management? The one discrepant case is that the a priori theme of importance did not emerge as one of the three overarching themes from data analysis of roles, effectiveness, and outcomes. The discrepant case is addressed by being combined or subsumed into the overarching theme of roles as their meanings are similar, in that to play a role is necessary because the public will not play a role if public participation is not essential. The following summarizes the three overarching themes that resulted from data analysis – the roles, effectiveness, and outcomes of public participation in Los Angeles water resources management.

Roles Summary

Participants shared that the public participation roles in Los Angeles water resources management include:

- Opening communication pathways, increase awareness by informing people correctly and adequately, having a coordinated message, and holding elected officials and water agencies accountable for exercising their authority on behalf of the community.

- Changing to inclusive equity narrative at the top to level the playing field, eliminate disparities, eradicate blind spots of systematic racism, close the gaps of environmental justice, bring all voices of the people and environment to the table, and ensure equity of consistent, quality, and affordable access to clean drinking water for all.
- Restructuring governance by creating two super regional agencies, one for water resources management and the other for land use planning, to reduce duplication of siloed planning while achieving transparency, unified message, policy, leadership, and delivery of reliable water, while reducing dependence on imported water supply.
- Demonstrating political will by exercising our individual and collective will in engaging, establishing, and implementing public goals and exercising political will and influence over public administrators and elected representatives to achieve community objectives and desired outcomes.
- Understanding and ensuring regulatory development and enforcement consistently protecting the community, and not eliminating the flexibility and options that the public might need later or stopping public agencies from being able to do the right thing, to meet the regulation, but rather leading to increased involvement and the right kinds of water policies and projects that the community needs.
- Maintaining and increasing trust, understanding, awareness, transparency, and accountability, with the best interest of communities in mind; addressing

historical trust-related resentments, polarizations, and distress in disadvantaged communities; and building new collaborative relationships and partnerships for restoring lost community trust to achieve desired community outcomes.

- Developing, funding, and implementing the holistic, sustainable, resilient, participative, collaborative, integrated, and adaptive approach to Los Angeles water resources management.
- Involving and engaging the people, from the very beginning and remaining throughout the process, and not as an after-thought, to make policy changes and have the public's support. However, how planners present information to the public makes a difference in getting the desired community outcomes.

Outcomes Summary

The participants discussed and described the extraction era, and the retraction and refinement era as the two primary public participation outcomes in Los Angeles Water Resources Management, in the following ways

- The extraction of water resources, the exhaustion of local water supply, or their degradation to where they could no longer be a reliable source of water supply, and the importation of water supply from outside the Los Angeles region of Southern California – the extraction era.
- The lessening of imported water dependency by retracting or reducing imported water supply; refining the reduced imported water supply through the implementation of initiatives and programs that include water conservation, reuse,

or recycle, and through participative integrated and adaptive management strategies and plans – the retraction and refinement era.

Extraction Era Outcomes Summary

The participants discussed the early stages of Los Angeles water supply history that go back to the indigenous or Native American era, before the City of Los Angeles was founded in the 1700s, and which ended with the last of the major water infrastructure projects in the 1960s. The participants described the early stages by many names including: the hydraulic era, the era of extraction and refinement, the William Mulholland era, and the era of engineering. Also, the participants described the early stages as the era of imported water dependency, for the following two main reasons:

- local water resources were used up, and water importation dependency began that have been reduced, but not given up on, rather, likely remains as a permanent feature of Los Angeles water supply portfolio; and
- consideration for people engagement and environmental impacts were not in the "DNA of the time or thought off," avoided, suppressed, or discouraged, all of which contributed or led to imported water dependency, unreliable or unstainable water supply, and the great conflict with resident of water exporting area, which coupled with climate change impacts have changed how Los Angeles manages local and imported water resources.

As a "take-away" from the outcomes of the extraction era, the participants shared that water resources agencies and policymakers should care deeply, particularly, about the

long-term interests of the people they serve and those from where LA gets its water supply and their environment, as the highest goal of serving the community.

Retraction and Refinement Era Outcomes Summary

The participants discussed and described the retraction and refinement era as:

- The outcome of nature and public push back at the excesses of the extraction era, particularly, the hydraulic era – the social and environmental impacts of decades of water withdrawal and export to Los Angeles.
- That which began with the environmental movement of the 1960s and 1970s, which produced key federal and state legislation and regulatory authorities that enabled public engagement, activism, and advocacy, particularly, through the courts, which limited the amount of water that the Los Angeles region could import from other regions. This meant that much of the water that Los Angeles counted on from the Owens Valley and Bay Delta now stays in Owens Valley and Bay Delta areas, causing the retraction and the retraction era.
- The outcome of the environmental movement and climate change because the retraction is being exacerbated by the uncertainty of climate change, and both the retraction and climate change uncertainties have materially changed how the Los Angeles region manages water resources and supply.

However, the participants shared that the retraction era's public activism, engagement and advocacy are not entirely litigative. It also relied on membership networks, partnerships, and alliances to achieve desired outcomes in landscape areas where the government has failed to do something well. The participants also mentioned that this era

is not entirely about nature and peoples' push back, but also about refinements. The refinements were the many initiatives advocated and implemented by the people and agencies. Some of the initiatives included water conservation and recycling; participative, integrated water resources planning, and adaptive management; sustainability, resiliency and climate change adaptation planning; and the consideration of people engagement and the environment, as key stakeholders in public decision-making processes and regulations, and not as afterthoughts.

Specific Successful Outcomes Summary

The participants discussed specific successful outcomes of the retraction and refinement era, and key among them were:

- That interest and confidence in the democratic process of public engagement through the courts, public administration, or legislation were re-established. The democratic process has always been there as the expressed confidence of people to participate, by the framers of the United States constitution. However, during the extraction era, the confidence was weakened by the excesses of the Los Angeles founding fathers for not regarding meaningful public engagement and the environment in their pursuit for water supply for the growth of Los Angeles into the nation's second largest city that it has become. Success in people engagement and environmental consideration did not come until the retraction era when the Environmental Movement of the 1960s and 1970s resulted in key legislation and establishment of regulatory agencies that provided the legal tools, which increased public confidence for engagement and activism through the courts and

the regulatory agencies, towards restoring confidence in the democratic process, once again.

- The consideration of people and environment as key stakeholders in water resources management decision-making processes, and not as afterthoughts, specifically, the application of public trust doctrine and other decisions that limited how much water Los Angeles can import, which along with climate change factors such as drought, forced Los Angeles to conserve, recycle, or source their water supply locally. For example, the consent decree that forced approximately $2 billion in the Hyperion Water Reclamation Plant was a big win for the wastewater coalitions and advocacy groups.
- That in the last few years, all the major achievements, including the passage of Proposition ‘O’ and Measure W - the Safe Clean Water Program, the most recent achievement, resulted from the public participation process of the retraction and refinement era. The Safe Clean Water Program was a victory model restoration of the political process, where the voters together expressed what they wanted and worked through their elected representatives to develop it, passed, or approved it, and then voted to fund it.
- The agencies and policymakers began to listen, and signs of successful outcomes of public participation in Los Angeles water resources management began to emerge and expected to grow as all sides show more willingness to work collaboratively with increasing mutual understanding, trust, and goal of serving the public needs in the most holistic, integrated, yet balanced manner.

- The successes from public pushing over the years and working with public elected official and administrator that include the development of the One Water concept from the prior participative integrated and adaptive management planning processes; changing outreach paradigm from top-down to bottom-up approach; and people engagement from the very beginning of a project rather than later or not at all.
- The development of the Green New Deal as the latest and most significant success from the public participation processes throughout the years of working with the Mayor's office on the Sustainable City plan and the Resiliency Plan. However, regarding the Green New Deal, Participant P4 shared that it is "not a Green New Deal at all. Just a re-branded Sustainability "pLAn" that will disappear with the next Mayor. Same with the Resiliency Plan. Because almost none of the goals have been translated into funded programs or departmental policies."

Effectiveness Summary

The participants discussed that the effectiveness of public participation depends on some of the following:

- The ability to make and adapt to changes, particularly, overcoming limiting institutional and systematic practices;
- Overcoming cost or funding constraints, as well as limited available resources and incentives; and
- How information and technology are provided and used.

Institutional Changes Summary

The participants discussed the need for institutional paradigm changes, to achieve effective public participation in Los Angeles water resources management, as following:

- Planning for land use and water infrastructure development that is best for the community.
- Restructuring governance.
- Considering the environment and public as key stakeholders or equal partners in decision-making processes, not as an after-thought.
- Returning to the democratic ideal of public engagement of the progressive era, during which President Woodrow Wilson founded public administration as that which administers; and during which the elected was viewed as that authorized by the people to represent them; and the public was viewed as that retaining the power to demand accountability and improved service delivery to meet the present and the future needs of the community – sustainability.
- Being less bureaucratic and taking the needed quick, bold actions to address community needs, effectively. The participants discussed that when the expectations of the public, policymakers, and the water agencies clash, all suffer. The effectiveness of public engagement, public administration, and policymaking efforts suffer, leading to continued bureaucratic practices of being slow to act, embracing incrementalism, and not taking the needed quick, bold actions to address community needs, effectively.

- Building capacity in the community for effective, meaningful, and or long-term continuous engagement and viewing residents as informed, equal partners in decision making processes. The participants shared that the water agencies may be well intended in their expectations of the public, however, maybe the water agencies are not conveying the intentions to the public as intended. For example, the participants shared it has been the intentions of the water agencies to learn something new from public engagement efforts and reach out to the community with the information, so that the community residents can engage more meaningfully and consistently. Also, the water agencies intended to build capacity for long term continuous engagement with the people in the communities as informed, equal partners in the decision-making process, without leaving any community behind. However, the water agencies have not been effective in conveying their intentions, well, leading to limited public involvement and engagement outcomes
- Establishing a fully engaged process approach that is collaborative, integrated, multi-sector including the community, democratic, and beyond that expected by the law and regulations, though that may cost more. The participants discussed a renewed interest in the representative democratic process of the elected representatives representing the broader community, in leading the charge to achieve the fully engaged process approach for addressing community needs or be held accountable by the people. Also, the participants were expecting water agency managers to provide their technical expertise in a collaborative approach,

and utilize influencers, including local community trusted activists, elected officials, or NGOs, to outreach the community.

However, participant P4 shared,

> "the biggest challenge here, is that the technical expertise within the agencies is outmoded. It is partly their pride and unwillingness to learn and truly collaborate with scientists and other expertise, and it is partly the fault of leadership not recognizing the need for and demanding changes to their civil service lists. They can only hire what the list specifies. And the expertise they can hire is not equipped to deal with the overlapping challenges of climate change. Yes, it is critical to collaborate and engage with the public; it is even more critical for them to cede their self-anointed primacy as engineers-who-rule-everything, take a seat, and follow the lead of planners, biological, earth, atmospheric, and social scientists. The engineer's place in water and land use now is to listen, learn, and respond. Our work must be multi-disciplinary if it is to serve to help us survive this century."

Cost and Financial Incentives Summary

Regarding cost as well as financial and regulatory incentives, the participants shared the following:

- Water needs to be affordable to all.
- It takes public participation and engagement to provide funding and regulatory incentives for achieving community goals, plans, and priorities.

- In Los Angeles, people's effectiveness in implementing sustainable solutions to reduce dependence on imported water supply is limited by cost. Thus, the public must be willing to invest in this system, particularly on a consistent, long-term basis, due to certain individuals and communities that would not be able to participate, otherwise, or get the level of public services they ought to have. Some funding and financial incentives may be necessary for certain participants without the financial support and wherewithal to engage and participate.
- Water agencies should care a lot about their communities. It is water agencies' responsibility to ensure consistent, affordable access to clean drinking water for all, but it is also within the state government's responsibility to ensure that quality water is available to all individuals and communities.

However, according to Participant P4, the cost limitation on sustainable solutions is

> "only when your 'multi-benefit' projects are not multi-benefit. When you design and realize projects that are (multi-benefit), then benefits to public health and safety can accrue, and costs can be shared beyond just water agencies. It's unfortunate that the unwillingness to figure out how to truly collaborate and cost-share prevents us from multi-solving and perpetuates the notion that these things are expensive."

Information Summary

The participants discussed that information is critical, but it depends on how the information is framed and the individuals participating. Accordingly, participant 18 shared,

> "information is critical, but only as good as they stay the basis by which and on which that information is developed, and as good as the knowledge, and awareness, of the individuals who have participated, but the idea of bringing that information to the public, is still a good thing because it still makes them also aware, so, then they can do own homework, in terms of educating themselves, getting them more familiar with the issues of concern, asking questions that are important to them, and seeking the answers to their satisfaction, in terms of what is the best interest of the community, as a whole. It becomes how the information is framed and who is at the table and how powerful that opposition is."

Future Era Summary

In general, the participants discussed continuing retraction and refinement era outcomes and expected future outcomes of public participation in Los Angeles water resources management including the following:

- The continuing public participation and engagement to produce future retraction and refinement of water supply outcomes in the face of continuing climate change and drought condition uncertainties as the environmental and community impacts of the extraction era continues to unfold in the years to come, if not forever.
- The expectation, for the foreseeable future, if not forever that imported water supply will remain an indispensable part of the water resources portfolio for Los Angeles, barring any unforeseen events such as megadroughts and earthquakes

however, retracted and refined it may be, and however locally available and sourced alternatives may be identified, established, or found.

- The development of a 'one-infrastructure' concept for ensuring the proper maintenance of both the municipal owned water distribution pipelines and the individual property owners premise plumbing pipelines to ensure water coming out of the faucets is drinkable, particularly in the disadvantaged communities.
- The establishment of a unified and coordinated messaging for public participation in Los Angeles water resources management to achieve the following:
    - Increased communication and building back trust with the policymakers, water agencies, and regulatory authorities, including increased showing up at the regulatory and water agencies' decision-making meetings and meaningfully being part of the process.
    - Increased awareness and Information about the impacts that water use has on local communities and those communities from where water is imported, and the solutions to mitigate those impacts.
    - Increased involvement with regional water management efforts and governance.
    - Increased understanding of the safety of recycled water as an alternative to imported water dependency in Los Angeles and overcome the past attempts to transition to water recycling that were met with public resistance for lack of understanding about the safety of recycled water.
- Improved climate change adaptation.

- The continuing and invigorated public participation and awareness will lead to a corresponding continued retraction and refinement of water supply, produce continuing lessening of dependence on imported water supply, and a search for more locally sourced water supply. Best left to be explored in future studies is whether the lessening of dependence on imported water supply will continue until a sustainable balance is reached with an irreducible amount of imported water supply, barring any unforeseen events such as megadroughts and earthquakes, or the unlikely event of the complete elimination of imported water supply.
- The likely indispensable part of the future sustainable balance equation will be the public participation and engagement that will no longer be viewed as afterthoughts by water agencies and policymakers. I hope that will not be wishful thinking on the part of the participants, but here, too, this may be best left for future studies to explore.

Overall, the expectation of future era outcomes is speculative and is best left for further future studies due to the limited time to analyze them fully, in the present study.

Summary

This chapter's key idea is the emergent of three overarching themes from data collection and analysis: the roles, effectiveness, and outcomes of public participation in Los Angeles water resources management that aligned with the literature review and answered three out of the four tenets of the research question. The one discrepant tenet is combined with another in alignment with the research question's overall goal and purpose

of the research study. The NVivo software was used to facilitate coding and thematic analysis, and it also facilitated the development of the three overarching emergent themes and subthemes. Each of the three overarching emergent themes from data analysis has subthemes, and some also have categories, and subcategories of themes that further explain and support research question and *a priori* themes presented in Table 2. An important idea and approach employed in the chapter were collecting data from a diversity of opinions and knowledgeable sources, consisting of 19 participating volunteers drawn from the communities and nonprofit organizations, the water agencies and their consultants, and policymakers. Of the 19 participants, seven were involved in the individual semistructured interviews, and12 were involved in the three focus group sessions that I conducted.

Despite the unique challenges posed to the participant by the coronavirus pandemic lockdowns and the divisive election and politics in Washington DC, I was able to collect and analyze valuable data, and obtained the meaningful conclusion that public participation effectively played essential roles in achieving desirable Los Angeles water resources management outcomes, with further interpretations and recommendations to be discussed in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to explore, from participants' perspective, public participation roles and impacts on Los Angeles water resources management, particularly in addressing the reliability of Los Angeles's water supply while lessening dependence on imported water supply, a perennial problem for Los Angeles. In other words, I aimed to explore and understand the public's role in participating and collaborating with Los Angeles water resources agencies and policymakers to find a lasting, reliable solution to the problem of Los Angeles's limited water resources and lessen dependence on imported water supply from other regions.

The study's nature was that of a qualitative case study that started by conducting a literature review that identified the gaps in the literature and then conducting data collection and data analysis to identify themes. I conducted data collection from 19 volunteer participants representing diverse opinions. Participants were drawn from the communities and nonprofit organizations, water agencies, consultants, and policymakers. Seven of the 19 volunteers participated in online semistructured interviews, and the remaining 12 volunteers participated in the three online focus group sessions that I conducted. Following data collection, I conducted data coding, using the NVivo software system and analysis of coded data using a thematic approach, which resulted in the emergence of three main themes of the roles, effectiveness, and outcomes of public participation in Los Angeles water resources management, with many subthemes, categories, and subcategories .

The study was conducted to add to the limited body of knowledge about the experiences of residents, water agency administrators, and policymakers regarding Los Angeles water resources management and outcomes. The study was also conducted to increase awareness and participation of the public in the Los Angeles water resources management decision-making processes and make other positive changes to the quality of life of all Los Angeles residents.

Key findings of the present study are the confirmation that public participation is playing important roles and effectively achieving outcomes toward a more sustainable balance between the economic, environmental, and social equity needs of both the water exporting and importing communities, which is making Los Angeles less dependent on imported water supply and more dependent on alternative sources of water supply as re-balancing is occurring.

Interpretation of Findings

The goal here is to describe how the research findings confirm, disconfirm, or extend knowledge in the discipline found in the peer-reviewed literature, and to analyze and interpret the research findings in the context of the study's theoretical foundation.

Findings in Context of Peer-Reviewed Literature Outcomes

The following section addresses how the research findings confirm, disconfirm, or extend knowledge in the discipline by comparing them with what has been found in the peer-reviewed literature described in Chapter 2. The present study did not change the fact that there is still scant literature on the best way to create policy while considering the people's voice (Fitzgerald et al., 2016). The findings confirm the portrayal of public

participation as a key component in policy decision making but extend the portrayal to the extent that the planners and experts at the water agencies do not skew the information presented to public participants. Hence, the findings confirm that the decision-making process is often driven not by the public but by public administrators, including experts, institutions, and governing bodies (Fitzgerald et al., 2016), as was particularly the case during the extraction era of large hydraulic water infrastructure projects used by Los Angeles to import water supply other regions that included the Owens Valley, the California Bay Delta, and the Colorado River. The research findings confirm that the extraction era was ended by the retraction and refinement era's strong public activism, coalition formation, and advocacy that started with the Environment Movement of the 1960s and the 1970s—the "watershed years for citizen participation" (Glazer et al., 2006, p. 180). The research findings show that public participation in public debate issues and decision-making processes such as those involved in Los Angeles water resources management made a difference in shaping and driving public water infrastructure projects and policies during the retraction and refinement era. For example, public activism and advocacy during the retraction and refinement era, through the courts, limited Los Angeles ability to import water from other areas. Also the public activism and advocacy led to the establishment of many of the retraction and refinement era initiatives that included water conservation, reuse, recycling, and implementation of integrated and adaptive management approaches, all of which further lessened Los Angeles dependence on imported water supply, while addressing the social equity and environmental excesses of the extraction era.

The research findings confirm that in Los Angeles, participative or collaborative, sustainable, integrated, and adaptive water resources, regional planning, and decision-making processes are emerging and transitioning phenomena (Antos, 2016). For example, 1994 was the first time that the State of California integrated its Water Code, Fish and Wildlife Code, and the common law of public trust (Kiparsky, 2014), resulting in the emergence of California's regional concept of integrated water resources planning and management. In 2014, the people of California embraced sustainable water management at the state, regional, and local levels due to natural events, particularly climate change and the 5 consecutive years of drought from 2012 to 2016 (Hanak et al., 2011; Peden, 2016). At the state level, the drought brought increased attention to California's water woes and motivated California Governor Brown and state legislators to formally embrace sustainable water resource management (Hanak et al., 2011; Peden, 2016). As a result, California enacted its first sustainable water resources management law in 2014.

At the local level, the drought motivated the City of Los Angeles to enter the second phase of its integrated water resources planning effort, formally referred to as the One Water LA Program (One Water LA Program, 2015). The One Water LA Program's (2015) key objective is to achieve enhanced public participation and integrated planning across all water service functions of drinking water, wastewater (sewage), and stormwater, and to avoid producing duplicative and cost-prohibitive independent plans for each water service function. The One Water LA Program involves developing one regional plan affecting drinking water, wastewater, stormwater (watershed management),

water conservation, water reuse, and water recycling, with public participation by citizen stakeholders at the center (One Water LA Program, 2015). Thus, citizen stakeholders' public participation is now on the rebound—increasingly accepted and gaining strength in Los Angeles's water resources planning and water infrastructure development decisions. However, Participant P4 shared,

> "the One Water Plan is staggeringly opaque. Even some of the consultants who wrote it have reached out to the NGO community to try and find out what happened to it, where it stands, is it showing up in any policy, where is the project list, etc."

Further, the research findings confirm that with increasing concern over environmental impacts, ecosystem damage, and economic cost, water resources management is transitioning from a "hard path" of relying on hydraulic infrastructure to a "soft path" of considering participative, collaborative, and efficient water management that is supported by the United Nations's Integrated Water Resources Management (IWRM) approach to managing water from an integrated and holistic perspective, both in natural water state and in balancing competing demands for water, to achieve long-term water sustainability (Wang, 2017). However, in disagreement, Participant P4 shared,

> "Please show me where that is happening in Los Angeles. I do not see it. IRWM still interprets "integrated" to mean "in any given year/funding cycle we are doing a water supply project, a water quality project, a recycled water project, etc." The City putting all their eggs (and $) into the Hyperion project (the proposed100% water recycling project at Hyperion Water Reclamation Plant) is neither holistic

> nor balanced. The County's draft Los Angeles River Master Plan makes clear that engineers consider the hard path as not only preferable but something that should not be questioned."

The research findings confirm that participants expressed a desire to return to participatory democracy and the notion of returning power to the ordinary people, not only via initiatives and recall elections (Burke, 2001; Krutz et al., 2019), but also through re-establishing communication pathways with elected officials to provide inclusive representation of everyone, leaving no community out.

In conclusion, the research findings confirm the four preliminary themes developed or during the literature review. First, public participation and consideration were absent for environmental impacts during the extraction era—the early stages of Los Angeles's water resource planning effort (LADWP, 2013). Second, the extraction era evidenced a lack of consideration of the sustainable and integrated principle of a balanced approach to water resources planning (Hanak et al., 2011)—one that emphasizes the economy, the ecology, and social equity principles that consist of the "3 Es" of sustainability as declared by the United Nations. Third, the retraction and refinement era brought about the capacity for progress over time and learning from the mistakes made by predecessors, as evidenced by an increased emphasis on integrated planning and a renewed concern for the environment (Council for Watershed Council, 2015; One Water LA Program, 2015; Water LA Report, 2018). Fourth, there is increased emphasis on collaborative planning and decision making, as recognized at multiple levels, including the courts, government and public sector planners, citizen stakeholders, and nonprofit

organizations. This includes a heightened participative role for individual stakeholders, private sector organizations, stakeholder organizations, and government agencies in the Los Angeles water resources planning process (Green, 2007).

Findings in Context of the Theoretical Foundation

The emerging and transitioning conditions of participative or collaborative, sustainable, integrated, and adaptive water resources, regional planning, and decision-making processes in Los Angeles account for the limited research in the literature on Los Angeles water resources management efforts, particularly based on ACF theoretical concepts and principles. The ACF theoretical framework is used to guide and examine collaborative efforts for identifying and implementing water management solutions of a regional scale; and integrating, implementing, and adapting water management solutions for the regions (Pincetl et al., 2016).

ACF theory is a framework (Ostrom, 1999) that includes three theories: advocacy coalitions, policy-oriented learning, and policy change reflecting winning advocacy coalitions' policy beliefs (Pierce & Weible, 2016). The research findings confirm that the advocacy coalitions were those of the environment movement era that led to key water and air quality regulations. The environmental movement era regulations provided the legal footing for coalitions of the water-exporting regions and their partner regulatory agencies. They applied through the courts the winning advocacy coalition's policy beliefs involving public trust, the environment as a stakeholder, equity, and protection of fish and wildlife to materially quench Los Angeles's then-insatiable thirst and quest for more water importation of the extraction era. Hence, the research findings confirm a synopsis

of recent case studies from the literature on how ACF theory guides research on water, climate change, and environmental policy issues (Pierce et al., 2016; Weible & Sabatier, n.d., as cited in Fischer et al., 2006).

Considering the ACF theory framework, public participation can be understood to relate to what motivates stakeholder groups to form, sustain, and influence water resources planning; work through existing institutional arrangements to fundamentally change institutions; and create positive social change.

The findings also confirm that advocacy and participatory worldview research, such as the present study, is having a transformative effect by leading to positive action agendas for reforming and changing the lives of participants, institutions, and communities in which individuals work or live, as well as researchers' lives (Creswell & Creswell, 2018). This was evident when the participant volunteers urged me to continue hosting focus group sessions on a similar or the same topic of public participation Los Angeles water resources management, after the conclusion of this research study, as a means of continuing to share information, as well as motivate and engage community members, in issues of great importance to them, such as water resources infrastructure development. Also, based on Berry et al. (1993) and Musso and Weare (2017), the research findings confirm that the advocacy and participatory worldview research, when viewed as civic engagement and democracy can be means of spurring greater citizen participation, developing a deeper sense of community, stronger trust in government officials, and greater confidence in the decision-making system.

The research findings also confirm that increasing collaboration helps people to (a) understand information better, (b) become empowered to solve problems with new ideas, (c) generate greater consensus, and (d) develop a voice in government that leads to long-term support for public policy recommendations (Bekkers, 2004; Brody et al., 2003; Buckwalter et al.,1993; Fiskaa, 2005; Irvin & Stansbury, 2004; Kathi & Cooper, 2005; Kunde, 1994). Further, the research findings confirm that involving members of the public in a process in which they can participate allows governance to retain legitimacy (Bingham et al., 2005), whereas not involving the public in decision-making processes deprives governance of valuable people and legitimacy (Walters et al., 2000).

The research findings confirm that ACF theory's advocacy coalition interaction, learning, policy changes, and actors sharing their beliefs and coordinating actions to influence public policy were evident in Los Angeles water resources management. This was evident when the Los Angeles coalition formation actors began conversations to form a coalition that later became an effective grassroots citizen stakeholder watershed council for influencing water policies in Los Angeles, in response to Los Angeles water resources agencies that would not share information among themselves or with the public (Council for Watershed Health, 2015; Green, 2007). It was also evident when 500 individuals and stakeholders' groups collaborated with water agencies as part of the Los Angeles IRP to effectively stop duplicative planning processes for yielding single-purpose plans for each water service function and replacing them with a holistic, collaborative approach that saved taxpayers costs and won the USEPA Water award (City of Los Angeles, 2006).

Limitations of the Study

The limitations to trustworthiness that arose from the study's execution did not change from those noted in Chapter 1 of the dissertation. The online data collection system was intermittent, interfering with the transcription system's quality to accurately capture what was being said without gaps. This was corrected during member checking and triangulation my research notes and audio recordings.

There remains the limitation of design and methodological weaknesses related to transferability and dependability, which involved the almost exclusive focus on importing water from Owens Valley in the Sierra Nevada area of California in contrast to importing water from the other two main sources for Los Angeles—i.e., the California Bay Delta and the Colorado River basin. However, during the study's execution, importing water from the California Bay Delta and the Colorado River were mentioned more than expected but they were still generally overlooked to minimize resource constraints and negatively impacting the study results. The almost exclusive focus on importing water from the Owens Valley is because the Owens Valley has served as the primary source of water for the Los Angeles region, for over a century. As a result, Owens Valley provides the case that is most representative of the water importation process and community stakeholder group involvement or the lack thereof related to Los Angeles. This potential limitation did not hurt the dependability of the present study's outcomes. Likewise, the absence of participants from Owens Valley did not hurt the dependability of the present study's outcomes. Such individuals were invited but did not respond to the recruitment invitation.

There are certain regions of the world where the present study's research findings cannot be generalized. The generalizability of the findings of this study to other areas is not automatic. For example, a large metropolitan community that is unable to import water from an external source would be less likely to benefit from the present study. However, in the present study, I placed emphasis on the use of trustworthiness strategies to enhance the accuracy, relevancy, and acceptability of findings, thus providing the foundation for the Los Angeles water resources management outcomes to be replicated in certain other contexts. Overall, the inability to generalize this study's findings on a universal basis does not detract from its importance.

There remained the following limitations:

- The Los Angeles water resources managers' biases and institutional barriers, including the managers' ability and willingness to engage and sustain participative collaboration with the community stakeholders and advocacy groups.
- The interviewee political bias against the water resources management policy directions of the policymakers, especially the policymakers in Washington DC, given the divisive political climate at the time.
- The differences in water resources experience, motivations, and perceptions that could have limited interviewee responses and skewed study responses.

However, the interview questions were designed to avoid these biases and not include political questions.

Recommendations

Recommendations for Future Research

In terms of transferability, the present study was limited and restricted to a single case study of public participation in Los Angeles water resources management, particularly related to water importation from the Owens Valley, one of the three primary areas Los Angeles imports its water supply. However, knowledge and experiences of the volunteer participants from the communities, NGOs, water agency administrators, and policymakers gained through participation in Los Angeles water resources management are expected to inform future studies aimed at exploring and examining water importation from other regions, including the California Bay Delta and the Colorado River, or water importation by other California cities such as the City of San Francisco. To this end, I would recommend future studies to adopt a mixed-method research approach to a study involving more than one case study to compare the generated results.

The present study participants were affiliated, knowledgeable, and experienced about the Los Angeles water resources management and the parties involved and may have attempted to protect the organizations' reputation with which they were affiliated. As a result, I recommend that future studies explore other stakeholders' perceptions regarding the Los Angeles water resources management. Additionally, I recommend that future studies use quantitative methods, instead of the qualitative method used in the present study, to quantify the important roles, effectiveness, and outcomes of the Los Angeles water resources management.

Recommendations for Practice

I recommend that the lived experiences of those involved - the communities impacted and the planners and policymakers that administered the Los Angeles water resources management during the Extraction, as well as the present Retraction and Refinement eras, including the knowledge gained therein, should inform the Los Angeles water resources management operations, policies, and infrastructure developments. This is particularly important as Los Angeles is considering implementing major water infrastructure projects in response to climate change, and 100% recycling of its wastewater is expected to be as large, if not larger, than the large inter-regional hydraulic projects of the extraction era. These aqueducts brought imported water to Los Angeles. According to Clavier & O'Neill 2017, Citizen stakeholder involvement and public participation in the form of policy coalitions can provide a means for understanding how several actors, including public officials, private actors, and the community, can work together towards sustainable governance and making sustainable public policies.

Additionally, to ensure effective, efficient, and socially equitable Los Angeles water resources management operations and policies that address all relevant stakeholders' concerns. The economic, environmental, and social equity needs of all communities and parties involved, the Los Angeles water resources management administrators and policymakers should plan and manage their activities to recognize the ACF theoretical framework discussed herein.

Implications

The present study implications include potential impact for positive social change at the appropriate individual, family, community, organizational, societal/policy levels expressed as tangible improvements, and the appropriate methodological and theoretical implications followed by recommendations for practice.

Methodological and Theoretical Implications

During the Extraction Era, the participants' perceptions were that Los Angeles failed to consider public participation, environmental impact, and community equity issues. The affected communities were not effectively and reasonably involved in the Los Angeles water resources management operations. These participants' perceptions constitute fundamental contributions to designing effective and efficient future Los Angeles water resources management operation models. In this regard, the present study's findings have implications regarding how future research studies may apply the ACF framework's theoretical foundation in exploring the roles and outcomes of public participation in water resources management operations in other communities.

Positive Social Change

This study aimed to explore the roles, importance, effectiveness, and outcomes of public participation in Los Angeles water resources management from the research volunteering participants' perspectives. Also, the goal is to gain an in-depth understanding of the challenges that Los Angeles is facing trying to balance the uncertainties surrounding climate change and the lessening of dependence on imported water supply while sustainably balancing the economic, environmental, and social equity

needs of the community, now and in the future. The goal is to increase awareness of public participation and suggest how the study participants' lived experience could inform policy and water infrastructure developments critical to the quality of life of all Angelinos – Los Angeles residents, businesses, and visitors. Therefore, the knowledge generated from the present study is expected to inform the re-shaping of Los Angeles water resources management operation models to holistically protect and promote the rights, needs, interests, and satisfactions of all relevant stakeholders - social, environmental, and economic needs of both Los Angeles area communities that receive and use imported water supply and those communities in faraway regions from where Los Angeles imports its water supply. The concept of public participation that includes trusting, early, and sustained involvement and meaningful engagement in equal collaborative partnership with the communities is a cardinal consideration for Los Angeles water resources management operations in the future.

Conclusions

The excesses of the extraction era, particularly the hydraulic era, have undermined Los Angeles water resources management's ability to reliably and sustainably balance the communities' economic, environmental, and social equity needs parties involved and created Los Angeles’s dependence on imported water supply. Public reactions to Extraction Era excesses, primarily in individual and community activism and advocacy through the courts, have resulted in establishing the present retraction and refinement era. The era of court-mandated significant retractions or reductions of water supply that Los Angeles can import and refine o reduce imported water supply by

implementing initiatives, including conservation, reuse, recycling, and evaluation of local water supply sources. It is certain that for the foreseeable future, imported water supply, however, retracted or reduced it may be, will remain a permanent feature of the Los Angeles water supply portfolio, and so will be the meaningful public participation and the equal consideration of the communities' economic, environmental and social equity needs, if Los Angeles water resources management is to be reliable and sustainable over the long term, particularly, given the uncertainties of climate change, including changing drought conditions.

The findings indicate that public participation plays an important role and produces effective, desirable outcomes and less unintended consequences in Los Angeles water resources management. According to Lauer, et al., (2017), Public participation is important for improving social-ecological systems management, and the lack of public engagement leads to unintended outcomes. Thus, the present study proposed an intentional early and sustained engagement of equal collaborative partners of all concerned to meet the present and future needs of communities in Los Angeles and areas from where Los Angeles imports its water supply, recognizing the role that the ACF theory can play, as discussed in this study. This would be a sustainable balance that will require collective leadership with flexibility, transparency, trust, and consistency to maintain.

References

Ali, A. K. (2005). Using the Delphi technique to search for empirical measures of local planning agency power. *The Qualitative Report*, *10*(4), 718-744. https://doi.org/10.46743/2160-3715/2005.1829

American Society of Civil Engineers. (2015). *Code of ethics*. http://www.asce.org/code-of-ethics/

Antos, M. (2016). *Social-ecological and institutional barriers to adaptive water management* [Doctoral dissertation, University of California, Los Angeles]. eScholarship, University of California. https://escholarship.org/content/qt0gt1n048/qt0gt1n048_noSplash_efaea0d14e26d0219d7e736fb6d1560f.pdf

Association of California Water Agencies. (2014). *Sustainable groundwater management act of 2014: Fact sheet*. http://www.acwa.com/sites/default/files/post/groundwater/2014/04/2014-groundwater-fact-sheet.pdf

Ball, P. (2005). Water and life: Seeking the solution. *Nature, 436*, 1084-1085. https://www.doi.org/10.1038/4361084a

Berry, J. M., Portney, K. E., & Thomson, K. (1993). *The rebirth of urban democracy*. The Brookings Institution. https://www.brookings.edu/book/the-rebirth-of-urban-democracy/

Boyce, C., & Neale, P. (2006). *Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input*. Pathfinder International.

https://dmeforpeace.org/sites/default/files/Boyce_In%20Depth%20Interviews.pdf

Brause, R. S. (1999). *Writing your doctoral dissertation: Invisible rules for success*. Routledge.

Brown, R. (2008). Local institutional development and organizational change for advancing sustainable urban water futures. *Environmental Management*, *41*(2), 221–233. https://doi.org/10.1007/s00267-007-9046-6

Brulle, R. (n.d.). *The U.S. environmental movement*. Drexel University. http://www.pages.drexel.edu/~brullerj/Twenty%20Lessons%20in%20Environmental%20Sociology-Brulle.pdf

Bryman, A. (2004). *Quantity and quality in social research*. Routledge. (Original work published 1988).

Callahan, D., Wilson, E., Birdsall, I., Estabrook-Fishinghawk, B., Carson, G., Ford, S., Ouzts, K., & Yob, I. (2012). *Expanding our understanding of social change: A report from the Definition Task forces of the HLC Special Emphasis Project.* https://my.campuscruiser.com/StreamServlet

Callahan, K. (2007). Citizen participation: Models and methods. *International Journal of Public Administration*, *30*(11), 1179-1196. https://doi.org/10.1080/01900690701225366

- Carlson, A. C. (2009). Gandhi and the comic frame: Ad bellum purification. *Quarterly Journal of Speech*, *72*(4), 446-455. https://doi.org/10.1080/00335638609383787

City of Los Angeles. (2015). *One Water LA 2040 plan: Guiding principles report*. https://www.lacitysan.org/cs/groups/public/documents/document/y250/mdew/~edisp/cnt010319.pdf

City of Los Angeles Integrated Plan for Wastewater Program. (2001). *Summary of the steering group process and their recommendations for integrated resources planning policy development*. https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/M210.pdf

City of Los Angeles Integrated Resources Plan. (n.d.). *Integrated Resources Program (IRP): What is IRP?* http://lacitysan.org/irp/About_IRP.htm

City of Los Angeles Integrated Resources Plan. (2006a). *City of Los Angeles Integrated Resources Plan (IRP): A new strategy for Los Angeles's water infrastructure information sheet*. https://planning.lacity.org/eir/ConventionCntr/DEIR/files/references/Integrated%20Resources%20Plan%Fact%20Sheet%202006.pdf

City of Los Angeles Integrated Resources Plan. (2006b). *City of Los Angeles Integrated Resources Plan planning for wastewater, recycled water, and storm water management: A visionary strategy for the right facilities, in the right places, at the right time*. https://www.lacitysan.org/cs/groups/public/documents/document/y250/mdew/~edisp/cnt010372.pdf

Clarke, V., & Braun, V. (2014). Thematic analysis. In T. Teo (Ed.), *Encyclopedia of critical psychology* (pp. 1947-1952). Springer.

Clavier, C., & O'Neill, M. (2017). The role of policy coalitions in understanding community participation in healthy cities projects. In: de Leeuw E., Simos J. (eds) Healthy Cities. Springer. https://doi.org/10.1007/978-1-4939-6694-3_14

Cohen, D., & Crabtree, B. (2006). Qualitative Research Guidelines Project. http://www.qualres.org/

Cortner, H.J. & Moote, M.A. (1994). Trends and issues in land and water resources management: Setting the agenda for change. *Environmental Management 18*, 167–173. https://doi.org/10.1007/BF02393759

Council for Watershed Health. (2015). Council for watershed health accomplishments: The formative years. 1995-1996. https://www.watershedhealth.org/our-history

Creswell, J.W. & Creswell, J.D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, (5th ed). Sage Publications, Inc. https://us.sagepub.com/en-us/nam/research-design/book255675

Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications, Inc. http://www.sagepub.com/sites/default/files/upm-binaries/22780_Chapter_1.pdf

Dallman, S. (2017). Navigating Drought in California: Lessons from Down-Under. *Yearbook of the Association of Pacific Coast Geographers 79*, 71-92. . https://muse.jhu.edu/article/669212/pdf

Dungumaro, E. W. & Madulu, N. F. (2003). Public participation in integrated water resources management: The case of Tanzania. *Physics and Chemistry of the Earth, Parts A/B/C. 28*(20-27), 1009-1014.

https://doi.org/10.1016/j.pce.2003.08.042. https://www.researchgate.net/publication/222407909_Public_participation_in_integrated_water_resources_management_The_case_of_Tanzania

European Urban Knowledge Network. (n.d.). What is public participation? Different levels added values and challenges. https://www.eukn.eu/policy-labs/policy-lab-for-cy-public-participation-in-the-development-process/general-introduction/what-is-public-participation/

Feldman, D. L. (2017). The water-sustainable city: Science, policy and practice. *Business & Economics*, p 137 to 148. Edward Elgar Publishing https://www.environmentandurbanization.org/water-sustainable-city-science-policy-and-practice

Fischer, J., Lindenmayer, D. B., & Manning, A. D. (2006). Biodiversity, ecosystem function, and resilience: Ten guiding principles for commodity production landscapes. *Frontiers in Ecology and The Environment - FRONT ECOL ENVIRON. 4*. 80-86. 10.1890/1540-9295(2006)004[0080:BEFART]2.0.CO;2.

Fitzgerald, C., McCarthy, S., Carton, F., O Connor, Y., Lynch, L., & Adam, F. (2016). Citizen participation in decision-making: Can one make a difference?, *Journal of Decision Systems, 25:sup1*, 248-260, https://www.tandfonline.com/doi/full/10.1080/12460125.2016.1187395?src=recsys

Guest, J. S., Skerlos, S. J., Barnard, J. L., Beck, M. B., Daigger, G. T., Hilger, H., ... Mihelcic, J. R. (2009). A new planning and design paradigm to achieve

sustainable resource recovery from wastewater 1. *Environmental Science & Technology*, *43*(16), 6126-6130. https://www.doi.org/doi:10.1021/es9010515

Hanak, E., Lund, J., Dinar, A., Gray, B., Howitt, R., Mount, J., Moyle, P., & Thompson, B. R. (2011). *Managing California's water: From conflict to reconciliation*. Public Policy Institute of California. https://www.ppic.org/content/pubs/report/R_211EHR.pdf

Kahlke, R. M. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods,* 37–52. https://journals.sagepub.com/doi/10.1177/160940691401300119

Keen, et al. (2018). Qualitative approaches matrix: Chart of frequently-used qualitative approaches at Walden University. Walden University

Kinsey, D. (1932). The romance of water and power. Los Angeles Department of Water and Power. https://scvhistory.com/scvhistory/files/ladwp_kinsey1932/ladwp_kinsey1932.pdf

Kiparsky, M. (2014). Mono Lake at 20: Past, present, and future. *Legal Planet.* http://legal-planet.org/2014/10/30/mono-lake-at-20-past-present-and-future/

Kiparsky, M., Thompson, B.H., Binz, C., Sedlak, D. L., Tummers, L., & Truffer, B. (2016). Barriers to innovation in urban wastewater utilities: Attitudes of managers in California. *Environmental Management, 57*:(1204). https://www.doi.org/doi:10.1007/s00267-016-0685-3

Lauer, F. I., Metcalf, A. L., Metcalf, E. C., & Mohr, J. J. (2017). Public Engagement in Social-Ecological Systems Management: An application of social justice

theory *Society & Natural Resources, 31*(1), 4-20. https://www.doi.org/10.1080/08941920.2017.1364456

Laureate Education (Producer). (2010). *Dissertation research process* [Multimedia file].

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Los Angeles Department of Water and Power. (2013a). Facts and figures. https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-factandfigures?_afrLoop=83049335851668&_afrWindowMode=0&_afrWindowId=fdxjeds9a_1#%40%3F_afrWindowId%3Dfdxjeds9a_1%26_afrLoop%3D83049335851668%26_afrWindowMode%3D0%26_adf.ctrl-state%3D134emoh5bc_4

Los Angeles Department of Water and Power. (2013b). The Los Angeles Department of Water and Power 2013 annual Owens Valley report. https://www.inyowater.org/wp-content/uploads/2012/12/Final-2013AnnualOVRpt.pdf

Los Angeles Department of Water and Power. (2015). Los Angeles Department of Water and Power 2015 annual Owens Valley report. https://www.inyowater.org/wp-content/uploads/2012/12/2015-Combined-Files.pdf

Los Angeles Times Editorial Board. (2016). Don't let California's water pricing tiers fall. *The Los Angeles Times*. http://www.latimes.com/opinion/editorials/la-ed-hillsborough-water-lawsuit-20170101-story.html

Mayor Eric Garcetti, (2015). New groundwater treatment project will help Los Angeles reduce dependence on imported water. https://www.lamayor.org/new-

groundwater-treatment-project-will-help-la-reduce-dependence-imported-water

McGuire, D., & Hutchings, K. (2007). Portrait of a transformational leader: The legacy of Dr Martin Luther King Jr. *Leadership & Organization Development Journal 28*(2). 154-166. https://doi.org/10.1108/01437730710726840L

McQuilkin, G. (2011). Stream restoration discussions picking up pace: Implementation requires answering many, many questions. Mono Lake Newsletter. Summer: 5

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Morgan, D. L. (2007). Paradigms lost and paradigms regained. *Journal of Mixed Methods Research, 1*(1), 48-76. https://doi.org/10.1177/2345678906292462

Moustakas, C. (1994). Phenomenological research methods. Sage

Musso, J. & Weare, C. (2017). Social capital and community representation: How multiform networks promote local democracy in Los Angeles. *Urban Studies Journal Limited, 54*(11), 2521–2539. Sage Publications. https://journals.sagepub.com/doi/pdf/10.1177/0042098016650359

National Society of Professional Engineers. (2016). Code of ethics for professional engineers. https://www.nspe.org/resources/ethics/code-ethics

One Water LA Program. (2015). One Water LA program factsheet: Water, storm water, wastewater. http://www.lacitysan.org/irp/OW_Documents/OneWaterLA_Fact_Sheet_2014.pdf

One Water LA Program. (2017) One Water LA progress report: A collaborative approach

to integrated water management, LA Sanitation and Environment and LADWP, City of Los Angeles.

Oregon State University. (2017). Positive Social Change. http://sli.oregonstate.edu/feature-story/positive-social-change

Orr, S., Ganter, C., & Seebright, J. (2012). Water: Managing world's most precious resource, *World Economic Forum*. https://www.weforum.org/agenda/2012/06/water-managing-the-worlds-most-precious-resource/

Ostrom, V., & Ostrom, E. (1971). Public choice: Different approach to the study of public administration. *Public Administration Review* 13: 203-216. https://doi.org/10.2307/974676

O'Sullivan, E., Rassel, G. R., & Berner, M. (2008). *Research methods for public administrators* (5th ed) Pearson, Longman.

Peden, A. (2016). History of Drinking Water in California. *Environmental Health Association 65th Annual Education Symposium presentation.* https://www.neha.org/california-eha-annual-educational-symposium

Pierce, J., Peterson, H., & Hicks, K. (2016). Policy change: An Advocacy Coalition Framework perspective. European Consortium for Political Research General Conference, Charles University.

Pincetl, S., Porse, E., & Cheng, D. (2016). Fragmented Flows: Water supply in Los Angeles County. *Environmental Management*, *58*(2), 208–222. https://doi-org.ezp.waldenulibrary.org/10.1007/s00267-016-0707-1

Ravitch, S. M., & Carl, N. M. (2015). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. SAGE Publications.

Rubin, H. J., & Rubin, I. S. (2012). *Qualitative Interviewing: The Art of Hearing Data for the supporting literature* (3rd ed.), Sage.

Rudestam, K. E., & Newton, R. R. (2015). *Surviving your dissertation: A comprehensive guide to content and process* (4th ed.). Sage.

Sabatier, P. A., & Jenkins-Smith, H.C., (1993). *Policy change and learning: An advocacy coalition approach*. Westview Press/.

Sabatier, P. A., & Weible, C. M. (Eds.). (2014). *Theories of the policy process* (3rd ed.). Westview Press.

Serrano, P. C. (2011). *California water crisis*. Nova Science Publishers.

Shafritz, J. M., Ott, J. S., & Jang, Y. S. (Eds.). (2016). *Classics of organization theory.* (8th ed.). Cengage Learning.

Simon, M. K. (2011). Developing research questions. In *Dissertation and scholarly research: Recipes for success* (pp. 1–3). Dissertation Success, LLC http://dissertationrecipes.com/wp-content/uploads/2011/04/Developing-Research-Questions.pdf

Skelton, G. (2015). Import our water from wetter climes? It is a pipe dream. http://www.latimes.com/local/politics/la-me-cap-drought-20150427-column.html

Stone, C. (2016). Federal spending and the debt limit: Testimony of Chad Stone, Chief Economist, Center on Budget and Policy Priorities, before the Subcommittee on Oversight and Investigations of the Financial Services Committee U.S. House of

Representatives. : http://www.cbpp.org/federal-budget/federal-spending-and-the-debt-limit

Swain, D., & Hollar, D. (2003). Measuring progress: Community indicators and the quality of life. *International Journal of Public Administration*, *26*(7), 789–814.

US EPA, Office of Water (2008). Handbook for developing watershed plans to restore and protect our waters. https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters

University of West Florida, Academic Technology Center. (n.d.). Bloom's taxonomy of critical thinking and writing effective learning objectives/outcomes. http://www.sandiego.edu/cas/documents/assessment/UsingBloomsTaxonomyforLearningOutcomes.pdf

U.S. Census Bureau. (2015). State and county quikfacts. http://quickfacts.census.gov/qfd/states/06/06037.html

Walden University. (2014). Matrix: Preparing Walden learners for social change. Walden University.

Walden University Catalog. (2012). http://catalog.waldenu.edu/content.php?catoid=61&navoid=9236

Walden University, Center for Research Quality. (2012). Ph.D. dissertation process and documents. http://academicguides.waldenu.edu/researchcenter/osra/phd and https://drive.google.com/file/d/0B4XiaHN6ICGIN3ZpRV9MQ0xmZ1E/view

Walden University, Institutional Review Board. (2013). When to seek IRB guidance `early: Studies with sensitive topics and vulnerable populations benefit from early

ethics consultation.

Walden University Library, (2015). Databases by name. http://academicguides.waldenu.edu/az.php

Walden University Library, (2018). Databases az. http://academicguides.waldenu.edu/az.php

Walden University, Online Writing Center. (n.d.). Literature reviews. wastewater. http://www.lacitysan.org/irp/OW_Documents/OneWaterLA_Fact_Sheet_2014.pdf

Wang, K. (2017). Integrated water resources management and modeling for decision-making at the river basin scale: A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Water Resources Engineering. Department of Civil and Environmental Engineering, University of Alberta, https://era.library.ualberta.ca/items/3375d69a-3de3-480f-b108-7533850db8d6

Water LA Report. (2018). Water LA Report: Water LA capture, conserve, reuse. A report by The River Project. https://static1.squarespace.com/static/5a21b552bce176df59bb9c8e/t/5a95af0c9140b74923e2a0fb/1519759148508/WaterLA_Report_022318_web.pdf

Weible, C. M., Sabatier, P. A., Jenkins□Smith, H. C., Nohrstedt, D., Henry, A. D. and deLeon, P. (2011). *A quarter century of the advocacy coalition framework: An introduction to the special issue*. Policy Studies Journal, *39*: 349-360.

https://www.doi.org/10.111/j.1541-0072.2011.00412.x

World Commission on Environment and Development (1987). Our common future, Oxford University Press.

Water Education Foundation, 2016. Pueblo water rights. http://www.watereducation.org/aquapedia/pueblo-water-rights

Yob, I., Lao, T., Uldall, B., Crum, M. B., Clay, O., Brock, N., Dixon-Saxon, S. (2014). *Matrix: Preparing Walden learners for social change.* Walden University.

Yu, Z. L. T., DeShazo, J. R., Stenstrom, M. K., & Cohen, Y. (2014). Cost-benefit analysis of onsite residential graywater recycling – a case study: The City of Los Angeles. *Luskin Center for Innovation, UCLA*. *http://innovation.luskin.ucla.edu/print/7650*

Appendix A: Invitation to Participate—Individual (Semistructured) Interview

Hello (Name),

I believe all of us know how important water resources management is to the entire Los Angeles area, as an issue that constantly requires our collective attention. My name is Hyginus Mmeje, and I am a PhD student at Walden University, School of Public Policy and Administration, Local Government Management for Sustainable Communities Program. As part of my PhD research, I am conducting a dissertation research study about the importance and outcomes of public participation in the management of Los Angeles water resources, to achieve reliable water supply that is less dependent on the importation of drinking water to Los Angeles.

Though no financial reward or direct benefits is offered to individual volunteers, the aim of this study is to benefit society by increasing inclusion and awareness about Los Angeles water resources management. Another goal is to recommend appropriate ways for contributing more meaningfully to decision-making processes that enhance practice and policy. Additionally, your participation will be important in promoting the understanding and awareness of how Los Angeles residents and businesses can participate in water resources management that affect quality of life for all residents.

Participant criteria includes: (a) live or work in the greater Los Angeles area of Southern California or in one of the areas from where Los Angeles gets its drinking water; (b) 18 years or older; (c) participate or know about Los Angeles water resources management; and, (d) be either a manager/administrator of water resources agencies or engineering

consulting firms that assist the agencies in managing Los Angeles water resources or an elected or appointed policy maker.

I invite your participation in an online semistructured online interview at a time that will be convenient for you, yet to be determined. The interview will be conducted by me, audio recorded, and involve about nine questions covering issues relating to public participation in Los Angeles water resources management, for duration of about 90 minutes. I have enclosed a consent form with this invitation.

Appendix B: Invitation to Participate—Focus Group

Hello (Name),

I believe all of us know how important water resources management is to the entire Los Angeles area, as an issue that constantly requires our collective attention. My name is Hyginus Mmeje, and I am a PhD student at Walden University, School of Public Policy and Administration, Local Government Management for Sustainable Communities Program. As part of my PhD research, I am conducting a dissertation research study about the importance and outcomes of public participation in the management of Los Angeles water resources, to achieve reliable water supply that is less dependent on the importation of drinking water to Los Angeles.

Though no financial reward or direct benefits is offered to individual volunteers, the aim of this study is to benefit society by increasing inclusion and awareness about Los Angeles water resources management. Another goal is to recommend appropriate ways for contributing more meaningfully to decision-making processes that enhance practice and policy. Additionally, your participation will be important in promoting the understanding and awareness of how Los Angeles residents and businesses can participate in water resources management that affect quality of life for all residents.

Participant criteria include: (a) live or work in the greater Los Angeles area of Southern California or in one of the areas from where Los Angeles gets its drinking water supply, or be a representative for organizations (including nonprofits) in the Los Angeles area; (b) 18 years or older; and, (c) participate or know about Los Angeles water resources management.

I invite your participation in an online (phone or Zoom) group meeting discussion with other participants, called focus group session, which will be facilitated by me, at a convenient time for you, yet to be determined. The goal is to have an online participation with other participants. The focus group session will involve about nine questions covering issues relating to public participation in Los Angeles water resources management, for duration of about 90 minutes, and will be audio recorded. Since the focus group is a group interview or discussion with other participants, easily embarrassed participants can self-select out of the pool of volunteers for the focus group session and self-select to participate in an online individual (semistructured) interview, with me, of about 90 minutes. However, I would really hope you can volunteer to participate, with other participants, in the focus group session. I have enclosed a consent form with this invitation.

Appendix C: Individual Interview Instrument

The purpose of this research is to explore the role of public participation in collaborative, integrated, and adaptive water resources management in Los Angeles, from the perception of individuals or groups of individuals that participate or knowledgeable about the Los Angeles experience. The research question is, what are the roles that public participation plays in Los Angeles water resources management, particularly in affecting change in the institutional planning, decision-making, and water resource management processes and outcomes of the Los Angeles water resources agency managers? A follow-up question is how effective public participation is in Los Angeles water resources management.

First Part: Introduction

1. What are the issues and challenges facing Los Angeles water resources management, particularly towards achieving reliable and sustainable water supply that is less dependent on imported water supply?

2. Does people involvement and engagement or public participation has any roles in Los Angeles water resources management?

3. In what ways can the public become adequately informed about Los Angeles's water resources planning processes, programs, and activities, to become knowledgeable for contributing in meaningful ways to the process? In other words, how can the water agencies get people to participate in increasing numbers and more meaningfully?

Middle Part

4. Are there regular and effective means of communicating between Los Angeles's water agencies? If yes, describe these. Which, if any of these, are most helpful in promoting public participation for Los Angeles's water resources management?

5. Has Los Angeles water resources managers and policymakers always considered participative, sustainable, and integrated principles of holistic approach to water resources planning? If no, what have changed?

6. Do you believe Los Angeles is experiencing increased emphasis on integrated water resources planning, stakeholder participation, and a renewed concern for the environment?

Last Part

7. To what extent should water agencies care or worry about the concerns, and needs of the impacted people in the communities they serve and the communities from where Los Angeles imports its water supply?

8. Have the water agencies changed their institutional practices to become truly collaborative? Is that even possible and why?

9. To what extent have natural disasters such as drought or even man-made disasters, such as terrorism replaced public participation movements such as the environmental movement of the 1960s and 1970s, as the catalyst for enacting water resources regulations and improving water infrastructures?"

Appendix D: Focus Group Interview Instrument

The purpose of this research is to explore the role of public participation in collaborative, integrated, and adaptive water resources management in Los Angeles, from the perception of individuals or groups of individuals that participate or knowledgeable about the Los Angeles experience. The research question is, what are the roles that public participation plays in Los Angeles water resources management, particularly in affecting change in the institutional planning, decision-making, and water resource management processes and outcomes of the Los Angeles water resources agency managers? A follow-up question is how effective public participation is in Los Angeles water resources management.

First Part: Introduction

1. What are the roles or importance, of public participation in Los Angeles water resources management?

2. What are the barriers to public (people and community) participation in Los Angeles water resources planning programs and activities and any solutions you may suggest?

3. Do you believe that Los Angeles residents and businesses have experienced increased emphasis on collaborative water resources planning and decision-making?

Middle Part

4. Have the Los Angeles water resources agencies involved people in their decision-making processes during the early years of water importation into the region and if not, what changed?

5. To what extent are public participation movements such as the environmental movement of the 1960s and 1970s still playing the roles of catalysts for enacting water resources regulations and improving water infrastructures; have they been effectively replaced by natural disasters like drought or even man-made disasters like terrorism?

6. What are some effective ways to learn about and get involved in Los Angeles water resources planning and management?

Last Part

7. What have been the outcomes of public participation in Los Angeles water resources management or does it not make any difference?

8. Specifically, how effective are Los Angeles participatory integrated regional water resources planning programs, such as the City of Los Angeles's One Water LA Program, the MWD's Integrated Resources and Adaptive Management Plan, and the Greater Los Angeles Region's Integrated Regional Water Management Program (IRWMP)?

9. Is Los Angeles's current embrace of citizen participation and integrated regional approach to water resources and watershed planning a little too late or ahead of its time? In what ways do you see it leading to a sustainable and reliable water supply for Los Angeles?