RETHINKING SURFACE WATER GOVERNANCE IN TÜRKIYE: LESSONS FROM THE KONYA CLOSED BASIN

by

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RETHINKING SURFACE WATER GOVERNANCE IN TÜRKIYE: LESSONS FROM THE KONYA CLOSED BASIN

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ABSTRACT

RETHINKING SURFACE WATER GOVERNANCE IN TÜRKIYE: LESSONS FROM THE KONYA CLOSED BASIN

This thesis aims to shed light on the political roots of water conflicts in Türkiye and examines how Türkiye's water governance is shaped by political discourses rooted in developmentalism and modernism. The Konya Closed Basin, as it is one of the most water-stressed regions in the country, is chosen as the case study. Adopting a political ecology perspective, the research explores how developmentalist narratives influence policies and generate hydrosocial conflicts among diverse stakeholders. The thesis contextualises the discussion in the historical trajectory of Türkiye's economic restructuring process since the 1980s to highlight how economic liberalisation and large-scale infrastructure projects, such as inter-basin transfers and dam constructions, have been legitimised through technocratic and growth-oriented narratives. These narratives often frame water scarcity as a natural condition and purely apolitical issue which lead to the reinforcement of top-down, infrastructural solutions. Focusing on present-day Konya Closed Basin, this thesis employs Q methodology. For this, initial interviews with 32 stakeholders generated a concourse of 86 statements, later refined to 37 for Q sorting by 24 participants. The findings suggest that the state's prioritisation of national progress, economic growth and modernity marginalises alternative, sustainability-oriented voices. This has limited the space for sustainable governance and intensified conflicts over water access and allocation. It concludes by calling for a shift toward governance practices centred in stakeholder inclusion, socio-envivornmental wellbeing and equity.

ÖZET

TÜRKİYE'DE YÜZEY SUYU YÖNETİMİNİN YENİDEN DÜŞÜNÜLMESİ: KONYA KAPALI HAVZASINDAN ÇIKARILACAK DERSLER

Bu tez, Türkiye'deki su çatışmalarının politik kökenlerini aydınlatmayı ve Türkiye'nin su yönetiminin, kalkınmacılık ve modernizm temelli siyasal söylemler tarafından nasıl şekillendirildiğini incelemeyi amaçlamaktadır. Ülkenin en yüksek su stresi yaşayan bölgelerinden biri olması nedeniyle Konya Kapalı Havzası vaka çalışması olarak seçilmiştir. Politik ekoloji perspektifini benimseyen araştırma, kalkınmacı söylemlerin politikaları nasıl etkilediğini ve farklı paydaşlar arasında hidro-sosyal çatışmalar ürettiğini incelemektedir. Tez, tartışmayı Türkiye'nin 1980'lerden itibaren yaşadığı ekonomik yeniden yapılanma sürecinin tarihsel bağlamına yerleştirerek, ekonomik liberalizasyonun ve havzalar arası su transferleri ile baraj inşaatları gibi büyük ölçekli altyapı projelerinin teknokratik ve büyüme odaklı söylemler aracılığıyla nasıl meşrulaştırıldığını göstermektedir. Bu söylemler, su kıtlığını sıklıkla doğal bir koşul ve tamamen apolitik bir mesele olarak çerçevelendirerek yukarıdan aşağıya işleyen altyapısal çözümleri pekiştirmektedir. Günümüz Konya Kapalı Havzası'na odaklanan bu tez, Q metodolojisini kullanmaktadır. Bu kapsamda, 32 paydaş ile yapılan ilk görüşmeler sonucunda 86 ifadeden oluşan geniş bir söylem seti oluşturulmuş, daha sonra 24 katılımcı tarafından Q sıralaması için 37 ifadeye indirgenmiştir. Bulgular, devletin ulusal kalkınma, ekonomik büyüme ve moderniteye öncelik vermesinin alternatif, sürdürülebilirlik odaklı perspektifleri dışladığını göstermektedir. Bu durum, sürdürülebilir yönetişim için alanı daraltmış ve suya erişim ile tahsis konusundaki çatışmaları yoğunlaştırmıştır. Tez, paydaş katılımı, sürdürülebilirlik, eşitlik ve özen temelli yönetişim uygulamalarına geçişin gerekliliğine işaret ederek sona ermektedir.

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LIST OF ABBREVIATIONS

DKM	Nature Conservation Centre
DSİ	State Hydraulics Works (Devlet Su İşleri)
F	Factor
GAP	Southeastern Anatolian Project (Güneydoğu Anadolu Projesi)
HEPP	Hydroelectric Power Plant
IBWT	Inter-Basin Water Transfer
IFAD	International Fund for Agricultural Development
IWRM	Integrated Water Resource Management
KCB	Konya Closed Basin
KOP	Konya Plains Project (Konya Ovası Projesi)
KOP BKİ	Konya Plains Project Regional Development Directorate (Konya Ovası Projesi Bölgesel Kalkınma İdaresi)
KOSKİ	Konya Water and Sewerage Administration (Konya Su ve Kanalizasyon İdaresi)
MEVKA	Mevlana Development Agency (Mevlana Kalkınma Ajansı)
NGO	Non-Governmental Organization
PCA	Principal Component Analysis
PRIMA	Partnership for Research and Innovation in the Mediterranean Area
S	Statement
SUEN	Turkish Water Institute (Türkiye Su Enstitüsü)
SYGM	General Directorate of Water Management (Su Yönetimi Genel Müdürlüğü)
TAGEM	General Directorate of Agricultural Research and Policies (Tarımsal Araştırmalar ve Politikalar Genel Müdürlüğü)
TBMM	Turkish Grand National Assembly (Türkiye Büyük Millet Meclisi)
TKDK	Agriculture and Rural Development Support Institution (Tarım ve Kırsal Kalkınmayı Destekleme Kurumu)
UNDP	United Nations Development Program
WWF Türkiye	World Wildlife Fund Türkiye

1. INTRODUCTION

As the world increasingly struggles with intensifying impacts of climate change, growing population demands and increasing fragility of ecosystems, the question of who controls, manages and accesses water is becoming more relevant than ever (UNESCO World Water Assessment Program, 2020). Far from being a neutral or purely technical matter, water governance stands at the intersection of environmental, political, and social challenges. Decisions about water are deeply entangled with structures of power, authority, and socio-political organization. Water scarcity is among the most pressing concerns in this field across regions and it is often framed as a hydrological and technical problem (Lopez-Gunn & Ramón Llamas, 2008; Li et al., 2020). However, scarcity is not merely the result of natural limitations or climate variability, but it is also deeply rooted in political decisions, dominant ideologies and competing imaginaries of development, nature and society (Bakker, 2012).

Türkiye is a great example of this dynamic, as a country that faces increasing number of hydrological challenges alongside the neoliberal agrarian restructuring in the country (Altaytas, 2023) and ambitious state-led development programs. As a water-stressed country, Türkiye has been investing heavily in infrastructural solutions such as dams, inter-basin water transfer projects and expanding irrigation networks to ensure meeting water demand for growing urban and agricultural sectors (Islar & Boda, 2014). These interventions are not apolitical; they are embedded in a broader historical trajectory of growth-oriented rationality, centralist and technocratic approach to water governance in Türkiye. In return, as also exemplified in the other parts of the world, this has led to emerging tensions over water use while also triggering questions of whose knowledge, interests and worldviews are being reflected in decision-making processes regarding water governance (Adaman & Arsel, 2012, Bakker, (2012).)

Türkiye's economic structure has undergone important transformations through a series of liberal reforms since the 1980s. Due to these structural changes, the country has shifted away from state-led protectionist model to a more liberal market-oriented economic imperative. Reforms such as liberal trade regulations, privatization and financial deregulation have not only resulted in restructuring of the economy, but they also altered the role of the state in development (Aricanli & Rodrik, 1990; Tatoğlu & Glaister, 1998; Sakallıoğlu & Yeldan, 2000). These transformations were not only limited to the economic sphere, but they also infiltrated into governance mechanisms over sectors, including water. In the field of water governance, these economic transformations were

reflected in the proliferation of large-scale infrastructure projects – which can be exemplified by dams, inter-basin water transfer projects, and hydropower plants – carried out mostly via public-private partnerships (Islar, 2012; Ayhan & Üstüner, 2022). Legal reforms redefined water as an economic good which resulted in its commodification and marginalization of local communities and traditional users (Islar, 2013). These developments reflect a broader trend of state-led developmentalism informed by market-logics in which mega-projects serve not only the economic goals as they are primarily advertised, but perhaps more significantly the political ones byallocating resources to capital groups and reinforcing centralised, often authoritarian, decision-making structures (Tansel, 2018; Enlil & Dinçer, 2022). As such, the water governance field in Türkiye cannot be separated from the country's evolving political economy landscape.

This complex interplay between water scarcity, governance and power showcases itself in the Konya Closed Basin (KCB) which is one of the most agriculturally productive yet ecologically vulnerable river basins in Türkiye (Torun & Çakmak, 2024). The Basin is historically known to be an agricultural hub with a semi-arid climate and limited surface water reservoirs which led the Basin to heavily rely on intensive groundwater extraction to sustain its large-scale irrigated agricultural production. However, dwelling on heavy extraction of groundwater resources resulted in a drastic depletion over the past decades (Demir, 2022). At the same time, surface water resources in the Basin have also deteriorated due to both unsustainable management practices and lack of robust resilience strategies against the changing precipitation trends (Yılmaz et al., 2021). In response to this growing crisis, the state carried out large-scale infrastructural solutions such as the Konya Plains Project (KOP) and the *Mavi Tünel* which transfers water from a neighbouring river basin into the Konya Closed Basin to meet irrigation demands and sustain rural livelihood (Lelandais, 2016).

All these hydrological interventions clearly reflect a politically motivated attempt to maintain the Basin's status as a national agricultural production hub; however, they also raise critical questions about the long-terms sustainability of current water governance practices. In the region, water scarcity is frequently framed as a technical problem for which material interventions, behavioural regulation and increased efficiency are considered to be the most viable solutions (Acar et al., 2010). However, such framings often result in obscuring the deeply political nature of water governance and dismiss alterative framings of the issue (Islar & Boda, 2014). In this context, the Konya Closed Basin offers a revealing case for examining the discursive and political foundations of water governance in Türkiye.

At the core of this thesis, lies the following research question: “What are the main conflicts regarding surface water governance in the Konya Closed Basin?”

To answer this, this thesis takes a critical approach towards the surface water governance in the Konya Closed Basin through the lens of political ecology and discursive power and it

i. explores the discursive configurations which shape water policy in the region,
ii. analyses how stakeholder positions are structured by power and capital and;
iii. identifies the broader implications for inclusive and sustainable governance both in the Basin and in the country.

Drawing on the hydrosocial cycle framework, this thesis conceptualizes water as simultaneously material and social which is shaped by infrastructural systems, ecological processes and political discourses (Swyngedouw, 2009). It employs *Q methodology* to investigate how different stakeholder groups, including state institutions, civil society actors, local communities, professional associations and academics, articulate competing narratives about water scarcity, governance challenges and appropriate solutions.

Complementarily, this thesis also employs stakeholder mapping tools such as power-interest matrices and capital classification – economic, human and social capital as defined in Bourdieu (2018) and Woodhall (1987) – to first assess both the content of stakeholder perspectives and the structural conditions that influence their capacity to affect change. Stakeholder mapping complements Q methodology for understanding not only the diversity of perspectives but also the unequal power relations that make it possible for certain narratives, primarily the one where technical fixes are put forward as sufficient solutions to water scarcity issues in the Basin, to dominate water governance agendas while marginalising others. The thesis argues that the persistent framing of water scarcity as a technical and apolitical issue conceals underlying conflicts over values, authority and visions of development.

The thesis is structured as follows: Chapter 2 lays out the theoretical framework to establish a critical lens for analysing water governance. Chapter 3 provides the characterisation of the Basin and the country’s history of economic transformations since the 1980s. By doing so, the thesis contextualizes the current water governance issues in Türkiye’s broader political economy. Chapter 4 details the research methodology, with a particular focus on Q methodology and stakeholder analysis. In Chapter 5, the empirical findings from the Q study are presented. Building on this, Chapter 6 discusses the implications of the findings and highlights how discursive power influences

what is perceived as rational, necessary and legitimate in water governance strategies and practices. Finally, Chapter 7 concludes the thesis by synthesizing key insights and offering recommendations for future research.

2. THEORETICAL FRAMEWORK

In this section, this thesis explores the theoretical discussions revolving around water governance. The thesis takes on a political ecology stance and places water governance as a site of contestation where prevailing water governance discourses constantly reinforce and deepen socio-environmental disparities (Perreault, 2017). Political ecology, simply put, aims to understand the complex relationship between nature and society especially through analysing distribution of power, resources, costs and benefits in environmental issues. It recognises environmental problems as, to a certain extent, socially constructed, historically produced and unevenly experienced (Bryant, 1998). Therefore, it sets the stage for analysing the power dynamics, stakeholder synergies and conflicts regarding water governance. Political ecology further informs the methodological use of stakeholder mapping and Q methodology by situating stakeholders within broader structures of power and discourse rather than treating them as isolated decision-makers.

Section 2.1 introduces the concept of discursive power and explains how certain narratives become hegemonic in environmental governance. Section 2.2 engages with the hydrosocial cycle framework that focuses on the co-constitutive relationship of hydrological cycle and society. In section 2.3, this thesis introduces the stakeholder theory to better understand how governance outcomes are shaped through the relationship of those stakeholder groups. These three sections accompany and help operationalising the political ecology lens in the context of water governance in the Konya Closed Basin. Complementarily, they serve to uncover the political, economic, historical and social underpinnings of water conflicts in the region.

2.1. Discursive Power

As understood from a Foucauldian sense, discursive power refers to the ways in which knowledge and truth are produced, controlled and maintained through discourse; how they are realized and maintained through language, practices and systems of thought. Discourses, according to Foucault, designate what can be said, thought and done regarding a subject matter in a society as it shapes how people understand reality (Foucault, 1978; Foucault, 1980). Drawing on his conceptualization, power cannot be understood as something held by individuals or institutions; rather, it operates by structuring knowledge and social norms that make certain ideas and ways of knowing seem “natural”, “true” or “inevitable” all the while ruling out other ideas. In this sense, power flows through and is embedded in existing discourses. (Flyvbjerg, 1998; Hajer, 1995; Sharp,

2000). For Foucault, power and knowledge are irreversibly intertwined as they not only shape the perception of what is to be considered true or valuable, but they also designate who holds authority regarding a subject matter.

Discourses, which are understood as structured ways of talking about and understanding the world, do not only reflect reality but they actively constitute social hierarchies and subjectivities as they create and legitimize inequalities through what is called "discursive valuation practices" (Angermuller, 2018; Guizzo, 2021). When the field of water governance is concerned, this translates into certain narratives and forms of knowledge becoming dominant and structuring how natural resources like water are managed and who has a say in decision-making processes (Guizzo, 2021; Van Asscche et al., 2017). With that being said, discursive power is not something static, it should rather be understood as something that is constantly negotiated and contested. Foucault emphasizes that social change occurs through discursive struggle where competing narratives battle for dominance. For instance, in the field of environmental governance, the adoption of concepts like "sustainability" by influential actors brings about a potential to transform those actors and reshape the very meaning of sustainability itself which clearly reflects an ongoing contestation and reconfiguration of hegemonic discourses (Livesey, 2002; Van Assche et al., 2017).

In this process, lies a key aspect of understanding how certain narratives become hegemonic in governance as dominant discourses are able to marginalize alternative perspectives and reinforce existing power structures. Building on Foucauldian concepts, Maarten Hajer's (1993) work on discourse analysis in environmental governance introduces the concept of "discourse coalitions" which is defined as different groups of actors who may not share interests or institutional affiliations but share a particular narrative or a way of framing an issue. Hajer used this concept to understand how environmental issues are conceptualized and understood, and how certain framings become dominant in the policy making field. These said coalitions compete to establish their discourse as the dominant one in a given discursive arena.

As a consequence, their dominance affects and shapes policy outcomes and governance structures. In the field of natural resource management, the dominance of certain ideas and narratives are not there unchaperoned, but they rather emerge from the ongoing debates and power struggles of different actors and institutions. As knowledge and governance evolve together, how problems are understood, and which solutions are seen as legitimate becomes a political site of contestation (Van Assche et al., 2017). Thus, understanding these dynamics is vital for analysing how hydrosocial

configurations of power are transformed and how certain narratives become hegemonic in Türkiye's water governance.

2.2. Hydrosocial Configurations

According to the hydrosocial cycle framework, water is not to be understood only as a separate biophysical entity but rather as a socio-physical construct which is shaped by constant interaction between society and hydrological systems (Linton & Budds, 2014; Swyngedouw, 2009). Processes, embedded in material, economic and political power structures that often favour the interests of certain groups and communities at the expense of marginalized others, determine the access to and control over water resources. Linton and Budds (2014) argue that the social configurations of power that shape the approaches to water governance at a particular time and space, consequently, are reflected in the changing hydro-social conditions. Therefore, one needs to carefully analyse how power is organized and informed by social, political and economic transformations to make sense of changing dynamics in hydro-social conditions and to address the issues related to water conflicts.

Perhaps, one of the most important building blocks of understanding these changing dynamics is the analysis of the discourses and arguments mobilized to defend and legitimize particular strategies or interventions. No matter what these strategies aim – addressing scarcity, improving distribution efficiency or improving ecological conditions - each water governance strategy is ideologically-driven and likely to have uneven socio-environmental impacts (Swyngedouw, 2009). For instance, large-scale irrigation infrastructure projects may enhance the total production of large scale/commercial farmers while leading to depletion of water resources in donor areas that is essential for small-scale or subsistence agricultural production or local ecosystems. Similarly, industrial sites and residential areas might benefit from projects aiming at improving urban water supply at the expense of rural communities' and environmental wellbeing (Baldwin & Stwalley III, 2022; Braun, 2011).

As exemplified above, each intervention to the hydrological cycle is socially and ecologically not neutral. On the contrary, they are often the results of broader socio-political priorities. Large-scale water projects such as dam constructions and inter-basin water transfer projects, which are considered to have negative impacts on both the donor and the recipient basins, have critical importance for understanding the hydrosocial transformations in a society as they are often manifestations of dominant political and economic paradigms (Boelens et al., 2019; WWF Türkiye, 2012). It is of great

importance to analyse the discursive and ideological processes at play regarding the justification of such projects.

The construction of large-scale dams is one of the most notable examples of ideologically driven interventions to water flow. Dams have been the symbol of state-led national development and modernisation, and they have long been regarded as one of the most viable solutions to water scarcity, energy production and enhanced agricultural production by controlling the flow of water (Kaika, 2006; Islar & Boda, 2014). They do not only alter the natural flow of water in a basin but also restructure social, political, economic and cultural patterns and relations by redistributing access to water, displacing communities and transforming ecosystems (Tilt, 2014). These multifaceted alterations and their consequences are not occurring coincidentally, but they are designed as such. Critical analysis of large-scale water projects and water governance strategies associated with them, therefore, is needed to reveal the underlying power dynamics and their role in maintaining and reproducing certain social configurations of power under the disguise of a promised progress (Lavers & Dye, 2019).

The concept of hydrosocial territories has emerged in recent years, building upon the hydrosocial cycle lens, to draw attention to the spatial and political dimensions of water-society relations. Hydrosocial territories are described as socio-environmental configurations in which water flows, infrastructures, institutions and discourses merge in the process of materialising specific configurations of territorial control and authority (Boelens et al., 2025). It emphasises that competing actors and institutions are not only struggling over water as resource, but also the meanings, boundaries, and practices of water governance itself. Ultimately, by closely examining how authority and legitimacy are claimed, contested and inscribed in spaces of water governance, through hydraulic projects, legal frameworks or discursive narratives, the framework offers a valuable extension to water conflicts articulated through political ecology, by foregrounding the production of territory as a crucial political process.

2.3. Stakeholders, Capital, and Power

Stakeholder theory touches upon how various actors such as governments, businesses, local communities and NGOs interact and influence decision-making in governance contexts. The theory emphasizes the necessity to consider the interests and strength of not only shareholders but of all stakeholders to achieve sustainable and ethical outcomes in governance conflicts (Mahajan et al. 2023; Laplume et al., 2008). In natural resource management, stakeholder analysis is central to

addressing sustainability challenges as it helps to identify whose perspectives and interests are prioritized over others in decision-making processes (Colvin et al., 2020). Studies show that the relationship between stakeholders, whether their nature is competition, cooperation or otherwise, shapes the governance outcomes (Beck & Storópoli, 2021). The concept of "stakeholder salience" refers to the degree to which stakeholders are prioritized in decision-making, often based on their power, legitimacy and urgency. This prioritisation in question might exacerbate already existing power imbalances that could also hinder addressing socio-environmental challenges (Colvin et al., 2020; Laplume et al., 2008). For this reason, a stakeholder analysis is necessary to deepen our understanding of power dynamics among related actors in the context of water governance.

Integrating the concepts of social and economic capital as defined by Bourdieu (2018) and human capital as defined by Woodhall (1987) into the stakeholder analysis is useful to reveal how different actors gain influence, negotiate power and shape outcomes within governance contexts. According to Bourdieu (2018), social capital is resources that are linked to having a certain network of relationships, and economic capital is defined as capital that can be directly converted into money. In the context of this research, drawing from the Bourdieu's definition, the concept of economic capital is used as mobilizable funds and financial resources on a broader sense. Finally, according to Woodhall (1987), human capital is defined as the skills, expertise, and opportunities gained through individual investment in education and training. Stakeholder analysis, when combined with this layer of capital classification assessment, allows for a nuanced examination of how these capitals are exchanged, valued and contested among diverse actors.

3. TÜRKIYE'S WATER GOVERNANCE AND THE KONYA CLOSED BASIN

Hydraulic missions, defined as a state-led initiative to construct large hydraulic infrastructures, have historically been of central importance in terms of shaping water governance agendas on the global stage. Especially starting with the early 20th century, hydraulic missions became key intruments for many purposes, from exercising and solidifying state power to nation-building while mobilising modernist visions of progress (Warner et al., 2017). At the same time, these attempts did not go without provoking resistance around displacement, ecological degradation, and disproportionate distribution of related costs and benefits of such projects (Crow-Miller et al., 2017). Recent works in the literature contend that the notion of hydraulic mission has not disappeared, but it has rather been reshaped in alignment with contemporary discourses such as "sustainability", "good governance" practices or the purpose of increasing the share of "renewable energy" in goverments' agendas all the while masking persistent power asymmetries (Warner et al., 2017). Critical political ecology persoectives thus frame hydraulic missions not as neutral interventions or technical achievements but rather as sites where power, knowledge and modernist imaginaries of hydrosocial territories are constantly produced and contested (Schneider et al., 2017; Zeitoun & Mirumachi, 2008; Hussein, 2022).

In the context of Türkiye, water and hydraulic missions have also been of central importance. From nation-building to national security and developmentalism, water governance has been on the main agenda of many debates (Conker, 2018). In Türkiye, where the aspiration to "catch up with the West" has shaped the political discourse since the decline of the Ottoman Empire, it is only natural that water governance is also closely tied to the ideals of developmentalism and modernity (Adaman et al., 2016).

According to Conker (2018), Türkiye has had a long history of designing and implementing numerous hydraulic development programs, viewing water resources management and development as integral components of state-building. The concept of development, understood as economic growth, has been closely tied to the establishment of complex institutional bodies aimed at governing and improving water resources. One such institution is the State Hydraulic Works (DSI, in Turkish abbreviation), established in 1953, which has been the most influential body in water governance in the country (DSI, n.d.). The developmentalist approach toward natural resource management can be

seen in Türkiye's hydropower energy projects which reflects a historical trend in the country's paradigm that prioritizes large-scale projects to foster an increase of economic growth (Kaygusuz & Arsel, 2016).

This historical trend is evident in the ruling elites' advocacy for developmentalist discourses in surface water management, justified by two factors according to Conker (2018). Firstly, agricultural production was the primary source of economic output for the newly founded republic, making large-scale projects such as regional development initiatives, dam constructions, and later inter-basin water transfer projects favourable by the state. Secondly, intensive hydraulic development was seen as a way to solidify the state's authority and ensure internal unity in the nascent republic (Çarkoğlu & Eder, 2016; Conker, 2018). A prominent example of such a project is the Southeastern Anatolia Project (GAP, in Turkish abbreviation), which began in the 1970s as an ambitious energy project involving the construction of 22 dams and 19 hydroelectric power plants. It soon evolved into an allegedly comprehensive regional development project aimed at enhancing the economic and social conditions of the region predominantly inhabited by the Kurdish population (Çarkoğlu & Eder, 2016). In other words, it became a modernisation and welfare master plan (Bilgen, 2018). GAP, designed with a liberal technocratic approach of developmentalism, exemplifies how this approach to surface water governance falls short in addressing complex challenges and can exacerbate vulnerabilities and inequalities in a region.

Although GAP was later promoted as a socio-economic welfare program, Çarkoğlu and Eder (2016) argue that the main incentive was to alter the socio-political and cultural dynamics of the region, while fostering economic growth in the hope that increased prosperity would bring political stability and control to the region, favouring the state's ruling elites. However, this approach was doomed to fail as the policymakers and local authorities took an exogenous positionality in the design and implementation process, acting as if their position was neutral, value-free, and apolitical. In reality, the rationale behind such a development program was deeply political and driven by specific discourses based on certain values. The local population and policymakers lacked a common vision of the present and future due to a mismatch of values and expectations (Çarkoğlu & Eder, 2016).

To contextualise and explain the current reflections of this long-standing anchor point in water governance of Türkiye, the following section focuses on the relatively recent political economy of the country starting from the 1980s where many major economic and political transformations started to take place. These transformations are key for a better understanding of today's struggles in the Basin. Later, it continues with presenting the case study and contextualising it within the broader

trajectory of water governance of the country. The section concludes by giving the justification for this thesis through identifying the current problems in the Basin and gaps in the literature.

3.1. Historical Trajectory

Since the early 1980s, Türkiye's economy has gone through major transformations from a state-led and protectionist economy towards an open and market-oriented system under a broader process of economic liberalisation. This shift had fundamentally impacted the country's economic structure and its global integration through processes such as trade liberalisation, financial deregulation, privatization and other policies to attract foreign investment. (Aricanli & Rodrik, 1990; Cecen et al., 1994). To accelerate economic competitiveness and integration into the global economy, Türkiye replaced import-substitution policies with export-oriented strategies (Tatoğlu & Glaister, 1998). Removal of trade barriers, devaluation of the national currency and the introduction of foreign direct investment incentives were among other key reforms and policy shifts that were put in effect during this process (Müftüler, 1995; Etkin et al., 2000; Balasubramanyam & Togan, 1996). At their core, these reforms were carried out to stimulate private investments and economic growth in the country (Sakallioglu & Yeldan, 2000; Guncavdi et al. 1998).

These economic transformations also impacted the agricultural sector; however, the initial liberalisation of the 1980s evolved into a broader trajectory of neoliberalisation gaining force starting with the early 2000s (Keyder & Yenal, 2011). Price supports and agricultural input subsidies were replaced by market-based instruments after the implementation of projects such as the World Bank-supported Agricultural Reform Implementation Project (2001-2009). The implementation of such projects resulted in the acceleration of export-oriented and often water-intensive agricultural production that reshaped rural livelihoods and land-use practices (Aydın, 2010; World Bank, 2009). In parallel, recent legislative changes such as the 2006 Agrarian Law (the Agriculture Law No. 5488 and the Seeds Law (the Seeds Law No. 5553) further facilitated the infiltration of transnational agribusiness companies into Turkish agriculture (Official Gazette, 2006a; Official Gazette, 2006b). While officially introduced as measures to modernise and enhance agricultural productivity, these policies largely favoured corporate interests, leaving traditional farmers increasingly vulnerable within global markets. As a result, the focus has shifted from traditional crops to high-profit agricultural commodities to be able to keep up with the highly competitive market. (Aydın, 2010).

These structural economic transformations had its reflections on the country's water governance strategies and practices especially through the proliferation of large-scale infrastructure projects such

as dam and hydropower plant constructions (Islar, 2012). These reforms enabled and encouraged the private sector to lease river rights to extended periods mainly for energy production purposes which brought about a significant change towards the privatization and commodification of water resources. Legal and regulatory transformations in favour of private interests enabled and facilitated this process at the expense of local communities and traditional water users (Islar, 2013). Public-private partnerships in water and energy sector have become a central mechanism to carry out large-scale "vanity projects" as they often distribute resources to pro-government capital groups and reinforcing political power structures (Ayhan & Üstüner, 2022). Moreover, the state has played a crucial role in shaping and creating legal exceptions and loosening the regulations to attract investment and hurrying large-scale infrastructure projects at the cost of democratic participation and transparency (Enlil & Dinçer, 2022). This centralization of decision-making has led to the erosion of public and democratic norms and it increased authoritarian tendencies in governance mechanisms (Tansel, 2018).

It should be highlighted that the intersection of this pervasive paradigm of Türkiye and large-infrastructure projects carried out in the country entails a possibility to make sense of their environmental and social consequences. The reallocation of water rights and enabling the construction of many hydropower plants is said to be marginalising rural communities and their needs which hinders customary rights and generates widespread social conflicts (Islar, 2012; Islar, 2013). Environmental impact assessment of such large-infrastructure projects is often deemed ambiguous which leads to ecological degradation and loss of public access to water resources (Enlil & Dinçer, 2022).

State and corporate discourses, however, frame large-infrastructure projects differently; they are essential carriages to foster modernisation, stimulate economic growth and national development. These discourses normalize the commodification of water and the prioritisation of market-based interests all the while invalidating alternative perspectives and suppressing local resistance. The unfortunate result is a political exclusion where legal and institutional structures and frameworks are restructured to pave the way to capital accumulation and sideline the rights of people and nature (Islar, 2012; Islar, 2013). In this broader context of Türkiye's political economy, large-infrastructure projects can be better understood. Taken together, these engagements situate both agricultural restructuring and large-scale water/energy infrastructure within Turkey's longer trajectory of politico-economic transformation, where external finance and policy frameworks intersect with domestic objectives of growth, modernisation, and sectoral upgrading.

3.2. Konya Closed Basin (KCB)

South and southeastern regions of Konya province (See Figure 1) are the focal area of this thesis due to the presence of vital surface water resources as well as water severe water-related issues. The Konya Closed Basin's general characterisation shows its importance for the country due to its dominant position in the country's agricultural production and its unique vulnerability in the face of climate change (Dursun, 2020). The Konya Closed Basin is one of 26 river basins in the country, constituting approximately 7% of the total land size of the country. While it has approximately 17% of Türkiye's groundwater reservoirs, the basin has only the 2% of the country's surface water resources (Berke et al., 2014). The groundwater resources are under severe stress due to overexploitation for irrigation purposes. In the decades, but particularly in recent years, the groundwater levels in the basin have been depleting radically (Orhan, 2021).

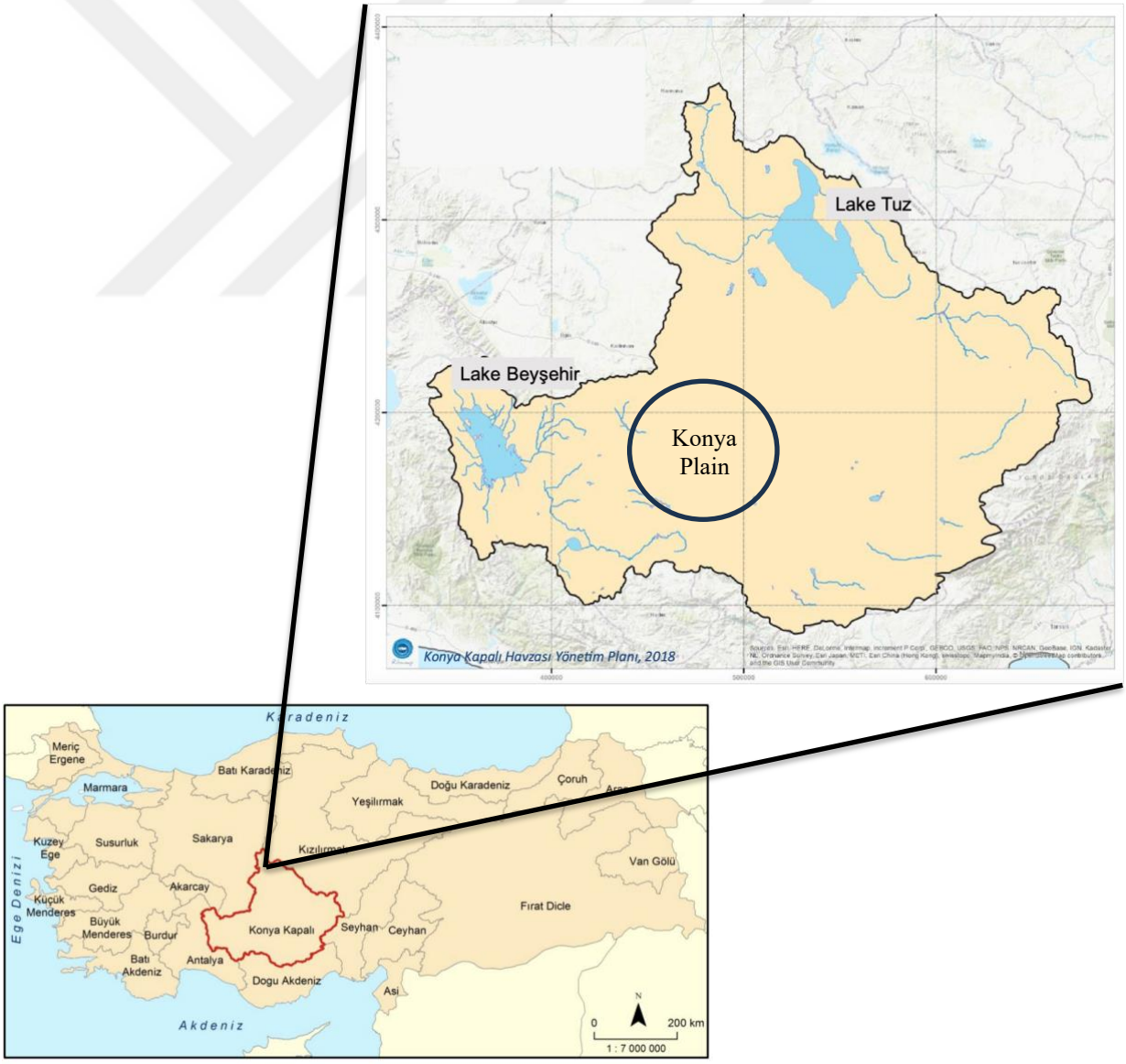

Figure 3.1. A map of Türkiye (below) and the Konya Closed Basin (above), (Ministry of Agriculture and Forestry, 2018)

As groundwater resources in the Basin became increasingly overexploited, demand for surface water was simultaneously increased especially to meet the irrigation demand of the farmers. As a result of this radical increase in surface water demand, a severe stress was put on the limited surface water resources in the Basin – the most notable one being Lake Beyşehir (i.e. the biggest freshwater lake in the country) located in the Southwestern Konya. To address this pressure, a large-scale intervention such as inter-basin water transfer (IBWT) projects have been planned and carried out in the Basin under the scope of KOP – the Konya Plains Project (see Figure 2). This project transfers water from Göksu River, which flows south of the Konya Closed Basin and discharges into the Mediterranean through Göksu Delta – a biological hotspot which has been enlisted as a Ramsar site in 1994 (Yeniyurt et al., 2011; Ökten, 2016). This project has also captured criticisms from environmental NGOs in the country for its expected negative consequences such as disruption of ecological balance within and between donor and recipient basins, disruption of fish migration and decline in their reproduction, socio-economic and cultural impacts to due changing land-use practices (WWF Türkiye, 2012).

Lake Beyşehir has long been central to the Basin due to serving as a primary source of water, especially for irrigation purposes, domestic consumption as well as industrial activities. Lake Beyşehir was also the focal point of an irrigation project in the late years of the Ottoman Empire which was carried out in Konya between 1907 and 1914, transferring water from Lake Beyşehir to the Konya Plain through a transmission channel (KOP, n.d.). Building on this century-old initiative, the Konya Plains Project was later developed and expanded into a comprehensive regional development program – the second biggest after GAP (the Southeastern Anatolian Project – which did not only incorporate expanded irrigation systems but also HEPPs and rural development initiatives (Karakoyunlu, 2024.). Drawing from these historical and ongoing dynamics, the need for sustainable water governance has become clear and urgent for the Basin.

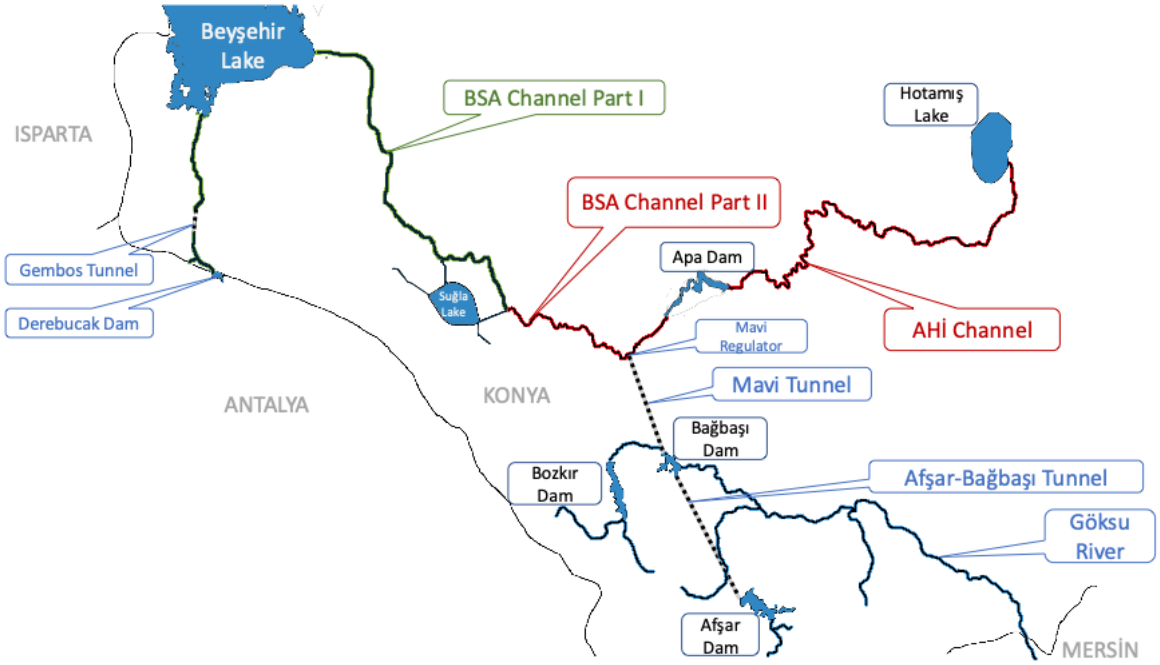

Figure 3.2. Surface water distribution network in the Konya Closed Basin (Bildirici, 2020)

However, large-scale projects like the IBWT project in Konya, reflect a common narrative of water governance in Türkiye that might endanger the possibility of an improved water governance and further harm the environment along with the socioeconomic dynamics that take place in it (Conker, 2018). Therefore, it is vital to understand the overall trajectory of water governance in Türkiye from a critical point of view if we are to improve the water governance in the Basin.

3.3. Problem Framing

Examining the dominant policy and management frameworks helps identifying structural and discursive shortcomings regarding the subject matter, one such framework is integrated water resources management. Integrated water resources management, in its essence, is designed to holistically govern the surface water resources of a basin; it is the process of coordinating water, land, and related resource conservation, management and development among various sectors within a certain river basin (Savenije & Van der Zaag, 2008). In 1997, integrated water resources management framework became mainstream after the United Water Conference, marking a radical shift from a top-down, centralised and technocratic approach towards a decentralised and a holistic approach (Meran et al., 2021). Drawing from its definition, assumptions of integrated water resources management are strong and desirable without a doubt (McDonnell, 2008). However, there are plausible questions posed critiquing the so- called success and overall theoretical fundamentals of

integrated water resources management; indicating an inconvenience of a long-been recognized and adopted framework which arguably has not been implemented adequately (Biswas, 2004).

In the context of Türkiye, previous attempts to integrated water resources management have been planned and implemented for over a decade in different scales, and its full adoption almost goes beyond a decade in many river basins (Öztürk et al., 2014). However, Türkiye has simultaneously shown significant proof of degrading conditions for its numerous river basins, and The Konya Closed Basin is no exception (Şen, 2013). Then why is there backward progress regarding sustainable water governance although integrated water resources management has long been adopted? Although it sounds promising and genuine in its intentions, there are fundamental issues in the integrated water resources management framework and in its implementations which could make the water governance in Konya ineffective at best (TBMM, 2021). To answer the above-mentioned question and to uncover the main causes of conflicts in the Konya Closed Basin, the thesis identifies three interdependent problems in Basin.

First, framing the water scarcity problem in the basin as a "natural" one due to the changing climatic conditions defines scarcity as exempt from the political, economic and social dynamics of the region. Politicians and relevant stakeholders ignore rising water demands and their underlying economic and social causes in favour of framing the issues as natural drought conditions and widespread water scarcity. This problem framing depoliticizes the field of water governance (Islar & Boda, 2014). The second problem in the Basin's water governance narrative is that plans and projects regarding surface water governance prioritise centralised decision-making and implementation with a top-down approach. This top-down approach to water scarcity and changing climatic conditions fall short in recognizing and identifying issues and vulnerabilities related to socio-economic structure of the basin, leading to a detachment from the Basin's sociocultural reality. This problem is a shared trend in many of Türkiye's river basin management plans and solutions to water scarcity that affect multiple sectors simultaneously (Çarkoğlu & Eder, 2016).

As in many other basins, large-scale projects such as the Mavi Tünel – financed by the Konya Regional Development office (KOP BKI) under the Ministry of Industry and Technology and implemented by the State Hydraulic Works (DSI) – have been promoted as solutions to the Basin's growing water crisis, framed through narratives of modernism, progress and economic growth. The centralised water governance approach with vanity projects is not only found incompetent in addressing socioenvironmental challenges triggers the possibility of exacerbating the already existing issues in many cases (Islar & Boda, 2014). Drawing from Schneider et al. (2010), the third problem

regarding surface water governance in the Basin is that the growth-centric strategies risk achieving sustainability and undermine the policy efforts in the Basin.

This thesis intends to deepen the literature on the above-mentioned problems in the context of the KCB. By rethinking the formulation of the problem, analysing the hydro-social dynamics of the region as well as the mainstream policy framework and reframing the issues with a critical perspective, this thesis aims to inform the relevant stakeholders to come up with a more democratic, sustainable and equitable water management plan. Moreover, crafting different alternatives that both confront and acknowledge diverse values should be aimed through water governance and policy debates (Cox, 1981). Critical inquiry towards current discourse hegemonies and a debate over conflicting values is a must for achieving an improved surface water governance (O'Brien & Wolf, 2010). Therefore, this study contributes to understanding the underlying causes of conflicts in Konya as well as critically approaching water governance of Türkiye as a site of contestation.

4. METHODOLOGY: DISCOURSE ANALYSIS, Q METHODOLOGY AND STAKEHOLDER MAPPING

4.1. Philosophical and Methodological Approach

This study adopts a mixed-method approach that is informed by the epistemological roots of critical realism while also drawing insights from social constructivist thought. This line of thought considers knowledge and discourse as socially constructed and context-dependent; however, it simultaneously recognizes the role of material realities power structures and institutional constraints that shape discursive formations (Fletcher, 2017). From this standpoint, discourses are not only reflections of subjective perspectives but also are produced and constrained by structural conditions, actor positionality, and access to social, economic and political human capital. To capture the complexity of discursive struggles in water governance, this thesis employs Q methodology for discourse analysis and stakeholder mapping. In this way, the thesis captures an in-depth understanding of subjective viewpoints while also examining the power configurations in which these perspectives are embedded.

Q methodology, first introduced by Stephenson (1953), is a structured way of studying subjectivity based on the analysis of patterns of divergence and convergence between individual perspectives. The method involves the generation of a concourse of statements which is subsequently refined down to a Q-set with a smaller number of statements. This final Q-set is subjected to a ranking from strong agreement to strong disagreement by relevant stakeholders (Q-sorting). Q-sorting is statistically analysed through factor analysis to uncover emerging discourses from shared patterns between individual Q-sortings (Barry & Proops, 1999).

Q methodology excels at systematically identifying and categorizing the range of subjective viewpoints and discourses present among stakeholders on complex issues such as environmental management conflicts or policy debates (Hugé et al., 2016; Barry & Proops, 1999; Cury et al., 2013). However, depicting who holds these perspectives, and why, requires additional layers of analysis. Stakeholder mapping complements the researcher's understanding of the subject matter by visualizing and identifying the key actors involved in the context of the research. Clarifying the role, relationships and relative influence of these key actors within the system enables the researcher to conduct a thorough discourse analysis by adding that additional layer of analysis (Forrester et al.,

2015; Cuppen et al., 2016; Cottafava & Corazza, 2020). While Q methodology discovers different discourses and subjective viewpoints in a given time and space in its contextuality, stakeholder mapping reveals the social and material substances of these perspectives. Therefore, two analyses together can uncover why certain discourses are more dominant or prominent, and how power and resources are distributed among stakeholders.

Capital classification of relevant stakeholders helps linking specific discourses identified through Q methodology to particular groups or individuals; therefore, it provides a richer and more nuanced ground on which the findings are interpreted more deeply (Hugé et al., 2016). As actor type alone does not necessarily predict perspectives, stakeholder mapping based on perspectives and different types of capitals might offer a more layered understanding (Cuppen et al., 2010). Furthermore, understanding the discursive landscape and stakeholder ecosystem can inform better, inclusive, participatory and socio-ecologically sustainable policies and management strategies. The combination of these two analyses aid in understanding how stakeholder positions, power and resources shape the discourse landscape. This integrated approach is especially insightful for addressing complex socio-environmental challenges where both the diversity of viewpoints and the distribution of power matter for sustainable and equitable outcomes. In section 4.2, the stakeholder mapping and capitals assessments are elaborated on. Following, in section 4.3, the research design and implementation stages are introduced and explained.

4.2. Stakeholder Mapping and Capital Assessment

To better understand the governance ecosystem and contextualize discursive positions of stakeholders, a stakeholder mapping exercise was conducted. A power/interest matrix (see Figure 3) was developed based on:

- The formal roles and legal mandates of institutions according to Turkish water governance legislation,
- Informal power relations and perceived influence as revealed through interviews, and
- Stakeholders' engagement level and interest in surface water governance.

  A power/interest matrix is a stakeholder mapping tool that operates in two dimensions based on stakeholders' power to influence a given issue and their level of interest in its outcomes (Interreg Central Europe, 2024).

Stakeholders were also categorized by type (e.g., state institutions, civil society organizations, market actors, academia, irrigation cooperatives) based on desktop review, institutional and

legislative analysis. In addition, each stakeholder was qualitatively assessed according to three types of capital (See Table 1 and 2) adapted by Bourdieu's (1986) and Woodhall's (1987) concepts:

- Economic capital: Defined as access to financial and material resources,
- Social capital: Defined as connectivity, legitimacy and trust among networks,
- Human capital: Defined as technical knowledge, organizational capacity and professional expertise.

This assessment informed the interpretation of discourses by illuminating how actor positionality and capital access influence the ability to shape, resist or reinforce dominant narratives.

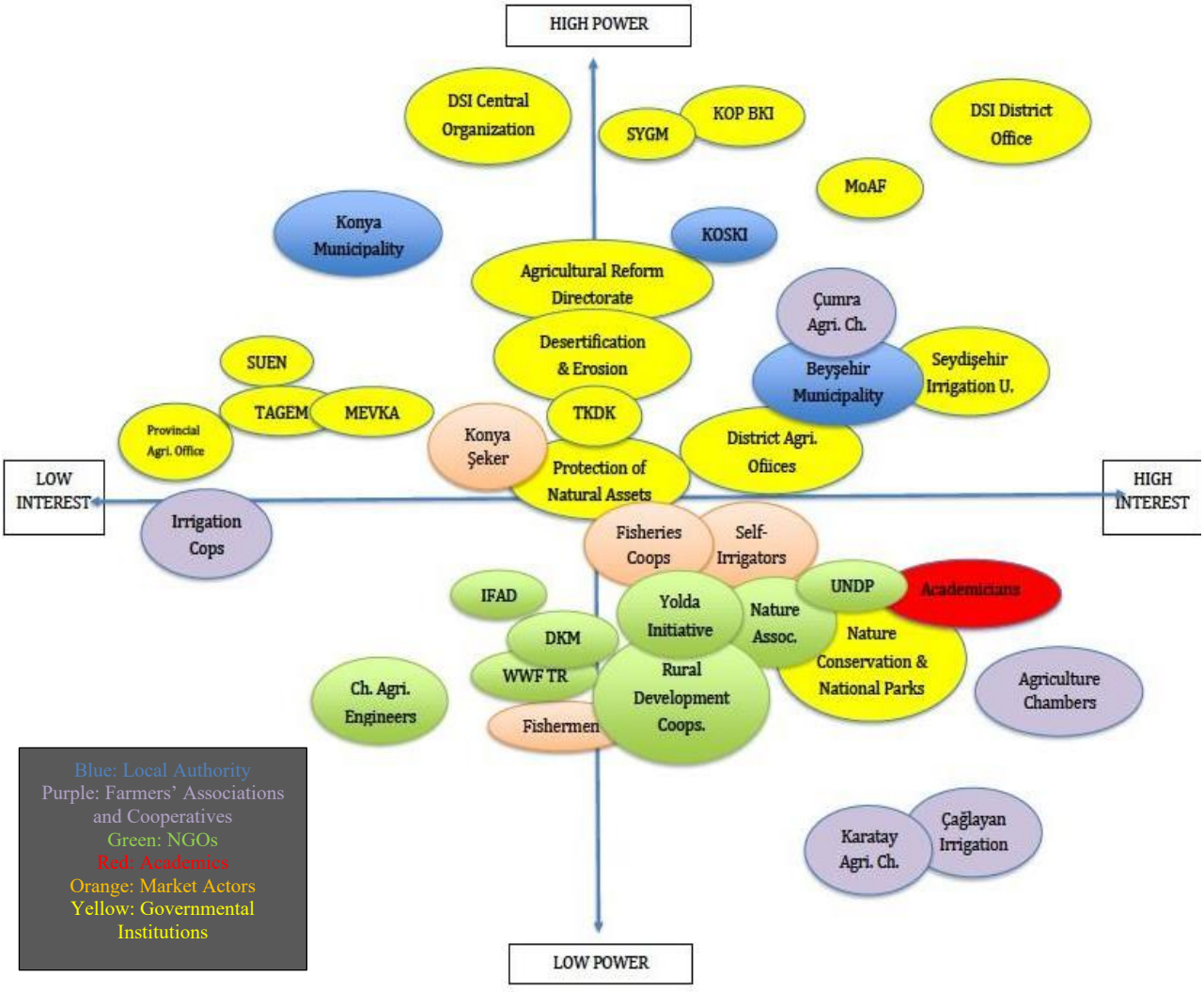

Figure 4.1. Stakeholder power/interest matrix

Table 4.1. Stakeholder capital assessment criteria

Social Capital	Economic Capital	Human Capital
Capacity to involve other actors	Capacity to contribute as a sponsor	Appropriate knowledge/skills suitable in the program
Representativeness of a specific category	Influence on resources' allocation	Awareness and propensity to change
Engagement in local communities	Capacity to access to exogenous resources	Capacity to engage in public debate
Capacity to activate social change	Capacity to provide in-kind support	Communication skills in different media
Acknowledgment among local institutions and citizens	Influence on the job market	Good access to public venues

Table 4.2. Capital classification for stakeholders

Stakeholders	Social Capital	Economic Capital	Human Capital
Ministry of Agriculture and Forestry	Middle	High	Middle
State Hydraulic Works (DSİ)	NA	High	High
State Hydraulic Works 4th District Office (DSİ 4th Dist.)	Middle	High	High
SYGM	NA	Middle	High
SUEN	NA	Middle	Middle
Directorate of Institute of Agricultural Economics and Policy Development	NA	Low	Middle
General Directorate of Agricultural Reform	Low	High	Middle
General Directorate of Agricultural Research and Policies (TAGEM)	Low	Low	High
Agriculture and Rural Development Support Institution (TKDK)	Middle	Middle	Middle
General Directorate for the Protection of Natural Assets	NA	Middle	Middle
General Directorate for Combating Desertification and Erosion	NA	Middle	Middle
Konya Provincial Directorate of Agriculture and Forestry	NA	Middle	Low
District Directorates of Agriculture and Forestry	Middle	Middle	Middle
General Directorate of Nature Conservation and National Parks Beyşehir Chief Office	Low	Low	Middle
MEVKA	Low	Middle	Low
KOP BKİ	Middle	High	High
Konya Metropolitan Municipality	Low	Middle	Middle
Beyşehir Municipality	Middle	Middle	Low
KOSKİ	Low	Middle	High
Ova Irrigation Union	Middle	High	Middle
Çumra Irrigation Union	Middle	Middle	Middle
Seydişehir Irrigation Union	Middle	Low	Middle

Stakeholders	Social Capital	Economic Capital	Human Capital
Konya Seker A.S.	Low	Middle	Low
Fishermen	Low	Low	Low
Individual Irrigators (Farmer & Animal Husbandman)	Low	Low	Low
IFAD	Low	Middle	Middle
UNDP	Low	Middle	Middle
WWF TR	Middle	Low	Middle
Nature Conservation Centre (DKM)	Low	Middle	Middle
Nature Association	Middle	Low	High
Yolda Initiative	Low	Middle	High
Beysehir Culture and Tourism Association	Low	Middle	Low
Rural Development Cooperatives	Middle	Middle	Middle
Irrigation Cooperatives	Middle	Middle	Low
Caglayan Agricultural Irrigation Cooperative	Middle	Low	Middle
Irrigation Cooperatives Union	Middle	Middle	Middle
Çumra Chamber of Agriculture	High	Middle	Middle
Bozkır Chamber of Agriculture	Middle	Low	Middle
Beyşehir Chamber of Agriculture	Middle	Low	Middle
Seydişehir Chamber of Agriculture	Middle	Low	Middle
Karatay Chamber of Agriculture	Middle	Middle	Middle
Fisheries Cooperative	Middle	Middle	Middle
Academics	Middle	Low	High

4.3. Research Design and Implementation

The research design consisted of seven stages:

1. Preliminary desktop analysis based on policy and document analysis
2. Stakeholder mapping
3. 32 semi-structured interviews for concourse development
4. Statement selection and reduction from the concourse with a decision matrix
5. Q sorting with 24 stakeholders
6. Statistical analysis
7. Interpretation and integration with stakeholder mapping

A preliminary desktop analysis was conducted based on policy and document analysis to better understand the water governance landscape in the Basin. Legislations, regulations and action plans regarding water governance in Türkiye were covered. Annual action reports from key governmental institutions and subject-specific reports from civil society organisations were carefully analysed in this stage. Informed by this analysis, at the second stage, a preliminary stakeholder mapping was created to designate the key stakeholders to be interviewed (See 4.2).

At the third stage, purposive sampling was used to ensure sectoral and institutional diversity as well as representation across scales and functions (e.g., policymaking, implementation, advocacy, technical expertise). A total of 32 semi-structured interviews were conducted with stakeholders who represented a wide range of actor types and sectoral affiliations including governmental institutions (n=20) such as ministry officials, policymaking institutions, implementation authorities and local authorities, and non-governmental stakeholders (n=12) such as civil society actors, farmer associations and academics. Each interview began with a general guiding question: "What are the main reasons for water problems in the Konya Closed Basin in your opinion?" Follow up questions allowed stakeholders to elaborate on both problem definitions and proposed solutions which prepared the foundation for the concourse development process.

The initial concourse, the set of statements reflecting the diversity of stakeholder perspectives, was developed based on the 32 interview transcripts which made up a total of 86 statements. At the fourth stage, these statements were qualitatively coded and carefully refined to eliminate repetition, clarify meaning and ensure each statement expressed a singular, coherent idea (to avoid double-barrelled phrasing). Some statements were merged; others were split while always preserving the original utterance of intent. A 5x2 decision matrix was applied to filter the concourse to a manageable final Q-set of 37 statements (See Table 3). This matrix was built along two dimensions based on problem framing (5 emergent categories from the interviews) and solution orientation (2 categories). This decision matrix was used to ensure a relatively evenly distributed number of statements are present in each cross category. The numbers in each cell represents the ID number of statements.

Table 4.3. Concourse decision matrix

Decision matrix	**Conforming**	**Transformative**
Geographical/Natural	1, 3, 5, 36	18, 33
Planning and Institutional	7, 9, 14, 27	11, 16, 29, 30, 31, 34
Technology and Infrastructure	4, 13, 17, 20	2, 21
Consumer Behaviour	12, 15, 23, 25, 26, 28	19, 22, 24
Socioeconomic and Cultural	6, 8, 32, 37	10, 35

This approach ensured that the final Q-set captured both problem framings and value-based orientations toward water governance issues in the Basin.

After the decision matrix was applied, the finalized Q-set of 37 statements was sorted by 24 stakeholders (one of the q-sortings was not included in the analysis due to incomplete sorting), 14 of whom were also interviewed in the concourse development stage of the research. The Q-sorting was conducted either through face-to-face physical sorting on a provided grid or via an interactive online sorting tool (Figure 4 and 5). Each respondent was asked to place the statements one by one on the normal-distribution grid ranging from -5 (strongly disagree) to +5 (strongly agree) based on the following prompt: “Please rank these statements on the grid based on how much you agree with them specifically in the context of the Konya Closed Basin, as well as in Türkiye more broadly.”

At the sixth stage, the completed Q-sorts were entered into PQ Method software and analysed using Principal Component Analysis (PCA) followed by Varimax rotation. The factor analysis was continued with 21 participants with pure loadings to avoid high correlation between factors. Based on their explanatory power of variance, a three-factor solution was retained, which explained 55% of the total variance.



Figure 3.2. A face-to-face q-sorting with a stakeholder

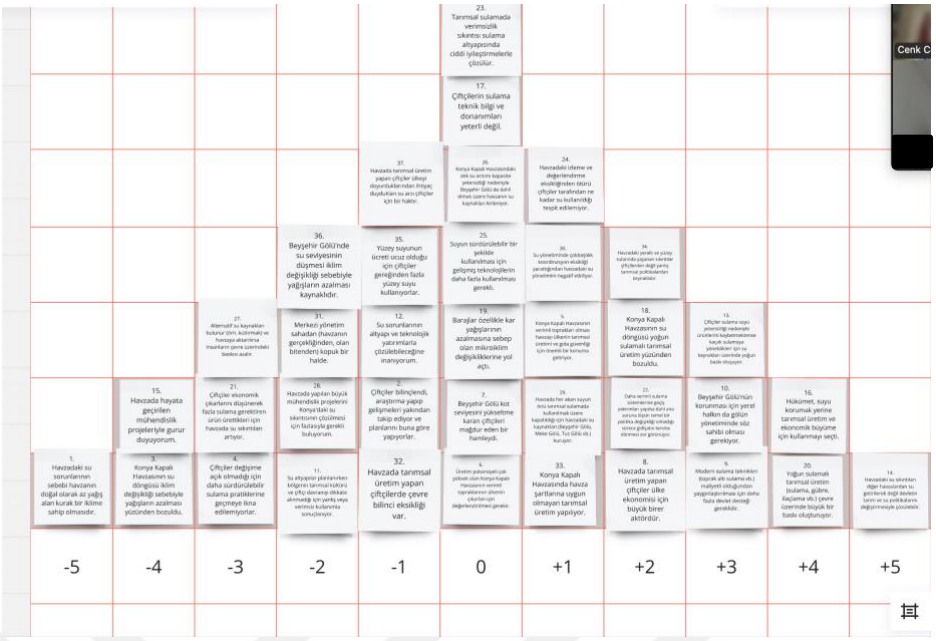

Figure 4.3. An online q-sorting with a stakeholder

The interpretation of 3 discourses emerged from the Q results was integrated with stakeholder mapping to situate discourses within broader power structures. This integrative approach made it possible to discover not only the perspectives that exist but also to understand whose perspectives dominate and why. By combining Q methodology results with stakeholder mapping, this study contributes to a critical political ecology understanding of water governance in the Basin, an understanding that attends both discursive struggles and material power asymmetries.

5. RESULTS: EMERGING DISCOURSES FROM Q METHODOLOGY

5.1. Factor 1: Transformative water governance

The first emerging discourse accounts for 32% of variance. Stressing the need for a transformative water governance, it reflects a deep critique of existing water governance configurations. The participants constituting this discourse are mainly NGO representatives, academicians and state officials working at environmental protection departments. This discourse frames water scarcity in the basin as an inherently political and structural issue while rejecting naturalistic and technocratic framings of the issue. Participants representing this discourse strongly disagree with the idea that issues related to water scarcity are merely due to the Basin's naturally arid climate (Statement 1/S1 at -3**) or climate-change induced precipitation changes in the basin (S3 at -3**). Instead, they showcase the central role that flawed state policies, centralised decision-making and a lack of inclusive governance structures play in making such a water scarcity possible in the basin.

Table 5.1. Example distinguishing statements for Factor 1

ID	Statement	F1	F2	F3
3	The hydrological cycle of the Konya Closed Basin has been disrupted due to a decrease in rainfall caused by climate change.	-3**		
14	Water problems in the basin can be solved not by transferring water from other basins, but by changing the state's agricultural and water policies.	5**	1**	3**
16	Instead of conserving water, the government has chosen to use it for agricultural production and economic growth.	4**	-3**	0**
27	If alternative water sources (e.g. Kızılırmak River) are transferred to the basin, human pressure on the environment will decrease.	-5**	2*	0*
28	I believe that the large-scale engineering projects carried out in the basin are extremely necessary to solve the water shortage in Konya.	-4**		

* Significance at P < 0.05
** Significance at P < 0.01

This discourse strongly opposes large-infrastructure projects such as inter-basin water transfer projects with strong disagreement regarding the idea that such projects are necessary to solve water shortages in the basin (S27 at -5**) and the argument that such projects are sources of national pride (S15 at -4**). This discourse also emphasizes the government's priority to foster economic growth at the expense of water sustainability and ecological conservation (S16 at +4*). The participants clearly oppose top-down water strategies and stress the importance of democratic and participatory water governance. This stance is shown in their endorsement of local participation in the preservation and management of water resources (S10 at +2**) and their apparent concern regarding governance failures as they recognize high institutional fragmentation in the governance structure (S30 at +2**). The participants are also highly critical of the detachment of central ministry organizations from local realities; a sentiment also inferred and got strengthened from their vocal comments during the sorting process. Although this discourse recognizes the environmentally harmful farming practices and calls out the impacts of faulty farmer behaviour, they suggest that the real responsibility lies with policy frameworks, not individuals (S2 at -1**). The respondents strongly agree that real solutions are to come through fundamental policy reforms and structural transformation (S14 at +5**).

Factor 1 is the embodiment of political ecology perspective, and it advocates for deep structural reforms of water governance rooted in values of socio-environmental wellbeing, institutional accountability and participatory governance. It challenges dominant technocratic narratives and calls for a structure that is respectful of socio-ecological limits and empowering local stakeholders.

5.2. Factor 2: Developmentalist water supply

The second factor accounts for 15% of variance and it represents an economically driven and state-centric discourse in which the water scarcity in the basin is primarily framed as a natural and technical problem. Rather than holding policy or governance failures responsible, participants representing this discourse attribute the cause of the scarcity to the region's inherent climatic aridity and to climate change induced decrease in precipitation. This perspective is a strong supporter of supply-side solutions to water scarcity in the basin such as expanding irrigation infrastructures and increasing the amount of available water through state-led large-infrastructure projects. The participants are strongly emphasizing the strategic importance of the Basin's production capacity for national economic growth and food security. They stress out the need to use the Basin's fertile lands for such purposes (S6 at +5**; S5 at +4**).

Table 4.2. Example distinguishing statements for Factor 2

ID	Statement	F1	F2	F3
4	Farmers are resistant to change and cannot be persuaded to adopt more sustainable irrigation practices.		-4**	
6	The fertile soils of the Konya Closed Basin, which has very high production potential, must be utilized for the benefit of the country.		5**	
8	Farmers engaged in agricultural production in the basin are major players in the country's economy.		4**	
17	Farmers' technical knowledge and equipment regarding irrigation are not sufficient.		-4**	

* Significance at P < 0.05
** Significance at P < 0.01

Another characteristic of this discourse is the complete rejection of critiques of the current agricultural practices, and consequently they oppose regulatory or ecological constraints that may hinder productivity. They also show a strong disagreement with the idea that farmers are resistant to change or lacking knowledge in terms of sustainable agricultural production (S4 at -4**; S17 at -4**), and they reject claims that water intensive agriculture in the basin causes environmental harm (S20 at -1*; S33 at -2**). Moreover, they express strong opposition to any interventions that is perceived to threaten the continuity of agricultural production and economic security of farmers, such as ecological regulations like water level controls in Lake Beyşehir which they view as only harmful to farmers while not necessarily needed for protecting the lake itself. This interpretation is drawn from S7, which is at +3*, and comments made during the Q-sorting. Instead of policy reforms, they express the need for greater state investments into infrastructure as they perceive large infrastructure projects as necessary for addressing water shortages.

The participants in this factor also express scepticism toward participatory or decentralised governance approaches. Local involvement is dismissed (S10 at -3**) and institutional critiques such as high fragmentation, inefficiency or detachment from local realities are either ignored or minimally acknowledged (S30 at 0**). Moreover, the central rationale of factor 2 is developmentalism; they see water as a resource to be mobilized to sustain the dominance of high irrigation agriculture, ensure food security and drive national scale economic growth. Sustainability, therefore, is given a secondary concern to productivity and economic stability. As such, this discourse aligns with paradigms of neoliberal developmentalism where nature is seen as a commodity and managed primarily for its economic utility, and environmental constraints are to be overcome through engineering and technological solutions.

5.3. Factor 3: Rationalized water use and controlled statism

The last emerging factor is "Rationalized Water Use and Controlled Statism", accounting for 8% of variance. It is represented by individuals with technical knowledge and bureaucratic expertise who are affiliated with state institutions in the Konya Closed Basin and in central ministry organizations. This discourse is centred on technocratic rationality and state-led regulation in which water scarcity in the basin is primarily framed as a consequence of natural conditions such as declining precipitation trends due to climate change (S36 at +5**). Instead of challenging the structural shortcomings of existing governance frameworks, this discourse places the main responsibility over individual farmer behaviour due to farmers' dominant production of water-intensive crops for economic gain (S21 at +4**) and the lack of environmental awareness among them (S32 at +3**). There is a strong disagreement with the alleged lack of monitoring systems (S24 at -5**) which reflects a conviction that monitoring systems exist or should be effectively implemented, and that mismanagement is a result of individual actions rather than institutional failure.

Table 5.3. Example distinguishing statements for Factor 3

ID	Statement	F1	F2	F3
21	Water shortages in the basin are increasing as farmers, considering their economic interests, produce crops that require excessive irrigation.			4**
24	Due to the lack of monitoring and evaluation mechanisms in the basin, it is not possible to determine how much water is used by farmers.			-5**
30	Institutional fragmentation in water management creates a lack of coordination, which negatively impacts water management in the basin.	2**	0**	-3**
32	There is a lack of environmental awareness among farmers engaged in agricultural production in the basin.			3**
36	The decrease in water level in Lake Beyşehir is due to decreased rainfall caused by climate change.	-2**	-1**	5**

* Significance at P < 0.05
** Significance at P < 0.01

Having said that, this discourse shows limited criticism towards the Turkish state's approach to water governance. Participants neither affirm nor reject the argument that the government prioritizes economic growth over water conservation (S16 at 0**) and they similarly take a neutral stance regarding taking pride in large-scale infrastructure projects (S15 at 0**). The criticism of institutional fragmentation is clearly rejected (S30 at -3**) by the participants representing this discourse and the

argument regarding the disconnect from local realities hindering effective and sustainable water governance (S31 at -3**) is strongly disagreed with. This attitude demonstrates a strong trust in centralised state authority and institutional coherence. Focusing on improving farmer knowledge, controlling excessive use of irrigation water and increasing efficiency, the proposed solutions showcase a clear tendency towards demand-side water management. This is proven by the clear rejection of participatory water governance (S10 at -4**) and the dismissal of critiques towards infrastructure shortcomings that could not integrate farmer behaviour in planning phases (S11 at -2**). On the other hand, there seems to be an agreement on the need for a change regarding the state's water and agricultural policies (S14 at +3**); however, these are to be understood as incremental improvements rather than systemic calls for structural transformation.

Factor 3 creates a vision of controlled sustainability which is grounded in technical knowledge, bureaucratic expertise and elite-driven governance. Its problem framing is embedded in apolitical and natural conditions and irrational local behaviour rather than framing water scarcity as policy or governance failures. In accordance with this framing, the proposed solution lies in an increased rationality through enhanced enforcement, targeted education and top-down policy adjustments. This discourse epitomizes the technocratic sentiment that "the public causes the problem, and it is up to experts and the state to fix it."

Table 5.4. Q-sort values for statements based on factors

ID	Statement	F1	F2	F3
1	The reason for the water problems in the basin is that the basin has a naturally arid climate with low rainfall.	-3**		
2	Farmers have become more aware, conducting research, closely following updates, and making plans accordingly.	-1**		
3	The hydrological cycle of the Konya Closed Basin has been disrupted due to a decrease in rainfall caused by climate change.	-3**		
4	Farmers are resistant to change and cannot be persuaded to adopt more sustainable irrigation practices.		-4**	
5	The fertile soils of the Konya Closed Basin make it an important location for the country's agricultural production and food security.	1**	4**	0**
6	The fertile soils of the Konya Closed Basin, which has very high production potential, must be utilized for the benefit of the country.		5**	
7	The decision to raise the legal water level threshold for Lake Beyşehir was a move that harmed farmers.	-1**	3*	1*
8	Farmers engaged in agricultural production in the basin are major players in the country's economy.		4**	
9	Modern irrigation techniques (subsurface irrigation, etc.) are costly, so more government support is needed to promote their widespread use.			-4**
10	In order to protect Lake Beyşehir, the local community must also have a say in the management of the lake.	2**	-3**	-4**
11	When water infrastructure is planned, failure to take into account the agricultural traditions and farmer behaviour of the region results in incorrect or inefficient use.	0**	2**	-2**
12	I believe that water problems can be solved with infrastructure and technological investments.			
13	Intense pressure is being placed on water resources as farmers resort to illegal irrigation rather than lose their crops due to insufficient irrigation water.			
14	Water problems in the basin can be solved not by transferring water from other basins, but by changing the state's agricultural and water policies.	5**	1**	3**
15	I am proud of the engineering projects implemented in the basin.	-4*	-5*	0**
16	Instead of conserving water, the government has chosen to use it for agricultural production and economic growth.	4**	-3**	0**
17	Farmers' technical knowledge and equipment regarding irrigation are not sufficient.		-4**	
18	The water cycle of the Konya Closed Basin has been disrupted due to intensive irrigated agricultural production.			
19	Dams have caused microclimate changes, particularly leading to a decrease in snowfall.	0*		

ID	Statement	F1	F2	F3
20	Intensive irrigated agricultural production (irrigation, fertilizer use etc.) puts great pressure on the environment.		-1*	
21	Water shortages in the basin are increasing as farmers, considering their economic interests, produce crops that require excessive irrigation.			4**
22	Even if investments are made in transitioning to more efficient irrigation systems, it seems unlikely that the trend will reverse unless there is a fundamental policy change regarding the issue.			
23	The problem of inefficiency in agricultural irrigation can be solved with serious improvements in irrigation infrastructure.			
24	Due to the lack of monitoring and evaluation mechanisms in the basin, it is not possible to determine how much water is used by farmers.			-5**
25	Greater use of advanced technologies is necessary for sustainable use of water.			
26	Due to the insufficient wastewater treatment capacity in the Konya Closed Basin, the Basin's water resources, including Lake Beyşehir, are being polluted.		-1*	
27	If alternative water sources (e.g. Kızılırmak River) are transferred to the basin, human pressure on the environment will decrease.	-5**	2*	0*
28	I believe that the large-scale engineering projects carried out in the basin are extremely necessary to solve the water shortage in Konya.	-4**		
29	Since all the water flowing in the basin is blocked to be used for agricultural irrigation, the water resources in the basin are drying up.		-1**	
30	Institutional fragmentation in water management creates a lack of coordination, which negatively impacts water management in the basin.	2**	0**	-3**
31	The central administration is not in touch with the field.			-3**
32	There is a lack of environmental awareness among farmers engaged in agricultural production in the basin.			3**
33	Agricultural production practices and crop patterns in the Konya Closed Basin is not suitable for the basin conditions.		-2**	
34	The problems experienced in the groundwater and surface waters in the basin are not caused by the farmers but by faulty agricultural policies.	0*		
35	Because surface water is cheap, farmers use more surface water than necessary.			1*
36	The decrease in water level in Lake Beyşehir is due to decreased rainfall caused by climate change.	-2**	-1**	5**
37	Since farmers engaged in agricultural production in the basin feed the country, the water supply they need is a right for farmers.		0**	

* Significance at $P < 0.05$
** Significance at $P < 0.01$

6. DISCUSSION: THE POLITICS OF SCARCITY AND GOVERNANCE IN TRANSITION

6.1. Conflict Zones: Contested Topics

The most fundamental point of divergence among the three factors lies in how the problem of water scarcity is framed. Factor 1 politicizes the issue of water scarcity and calls out, ties it to, the responsibility of state-driven developmentalist policies, high fragmentation, weak institutional coordination and centralised governance approach. It clearly rejects an apolitical and naturalised framings of the water crisis. They instead place the emphasis on governance failures and policy misalignments. Factor 2, as opposed to factor 1's framing, naturalizes the issue and locates the problem in the Basin's already arid climate and the impacts of climate change; it does so without challenging the broader policy structures. They deem climate change as the main cause of water scarcity and reject or at least minimize critiques of water governance or current agricultural models. Factor 3 takes a hybrid approach. While acknowledging climate change as the main driver of water scarcity, it also blames farmers' irrational and unsustainable water use and lack of awareness. Thereby, they shift the responsibility from the system to individuals. It avoids structural critiques and maintains a depoliticized and behaviour-focused interpretation of water scarcity in the basin.

This above-mentioned difference in problem framing paves the way to diverging views on who is responsible. Factor 1 deems policymakers and centralised state institutions as the primary responsible. They highlight the impacts of top-down decision-making and infrastructure-driven development approach on socio-environmental conditions in the Basin. Factor 2 avoids attributing blame altogether. It defends the current agricultural practices and state policies while taking farmers as the victim of natural conditions and overregulation rather than contributors to and drivers of the water scarcity. On the other hand, Factor 3 places a significant responsibility on local actors, particularly farmers as they argue that farmers overexploit water resources in the Basin. They do not find responsibility in the state and do not attribute any shortcomings to the state's established approach toward water governance. It calls for stronger enforcements, stimulating behaviour change and rational planning as it marks a disciplinary turn in water governance in the Basin.

The three discourses also differ in the way that they envision water governance. Factor 1 supports participatory and democratic water governance as it favours bottom-up processes and institutional

reform. It calls for more inclusive planning and local engagement in water governance as these are deemed essential parts of sustainable water governance. Factor 2 adopts a technocratic and centralised governance model in which the state is considered to be a capable actor that can and should provide infrastructure and ensure water supply to the Basin. In Factor 2, participatory governance is either not given central importance or seen as irrelevant. As for Factor 3, water "management" rather than "governance" is more fitting to its understanding of the issue. This factor promotes a top-down and expert-led approach to water governance though with a disciplinary focus, improving efficiency by educating, regulating and monitoring water users, in other words farmers, rather than engaging them in the processes of decision-making. It suggests a trust and belief in bureaucratic rationality over democratic deliberation.

For all three factors, there are underlying sets of different normative commitments. For Factor 1, it is evident that it is rooted in values of socio-environmental wellbeing, sustainability and institutional legitimacy as it places an emphasis on ecological limits, local empowerment and equitable resource distribution. Factor 2, on the other hand, takes economic growth and profitability, national development and agricultural productivity as priority. Its priorities reflect a developmentalist worldview. This factor values water primarily as an input for economic activity and sees nature as a commodity and a resource to be optimized. Factor 3's emphasis revolves around order, rationality and a controlled sustainability. Efficient use and technocratic discipline over environmental wellbeing or democratic and inclusive governance are central values of Factor 3 and it reflects a logic of governance through control.

Moreover, the stakeholder mapping reveals power asymmetries embedded in the water governance landscape of the Basin. Stakeholders who possess both high power and high interest (e.g. the State Hydraulic Works 4th District Office, Çumra Agriculture Chamber, Irrigation Unions, Provincial and District Agriculture and Forestry Directorates) predominantly belong to Factor 2. Stakeholders with high power but relatively low levels of interest (e.g. General Directorate of Water Management) are key representatives of Factor 3. Together, these two discourses hold a dominant position in shaping governance dynamics in the Basin. On the other hand, Factor 1 is mainly composed of NGOs, state-led nature conservation institutions and academics who have high levels of interest and human capital yet limited power and economic capital. When it comes to whose framing counts, the asymmetries revealed through stakeholder mapping demonstrates the hegemonic influence of Factors 2 and 3 while the perspectives and framings embodied in Factor 1 remain sidelined.

Different framings of water scarcity and underlying values related to these framings also translate into different solution pathways. For Factor 1, structural transformation is necessary; it includes reforming water and agricultural policies, decentralizing decision-making processes and enhancing institutional inclusivity and coordination. For Factor 2, a radical scaling up of infrastructure projects and increasing water supply is fundamental to tackle water scarcity. It also strongly opposes reforms that threaten agricultural production and profitability. Factor 3, on the other hand, advocates for a demand-side water management as it emphasizes behavioural interventions, efficiency technologies and top-down planning without calling for a systemic transformation.

6.2. Discursive Hegemony: Technocratic-Modernist Dominance

The findings reveal not only a multiplicity in stakeholder perspectives on water governance in the Konya Closed Basin, but it also reveals a significant asymmetry in discursive power. The results suggest that there are three main emerging discourses - Transformative Water Governance (Factor 1), Developmentalist Water Supply (Factor 2), and Rationalized Water Use (Factor 3); however, these emerging discourses do not weigh equally in terms of their effect on shaping policy agendas and processes, implementation strategies or setting institutional priorities. The Q results, informed by the stakeholder mapping, suggest a clear discursive hegemony of the two different yet interrelated perspectives in the water governance landscape of the Basin. Factor 2 (Developmentalist Water Supply) and Factor 3 (Rationalized Water Use) together form a technocratic-modernist hegemony. They do not only shape the way that water scarcity is understood but also which solutions can be considered as legitimate and who can possess the authority to define, conceptualize and address this crisis. Drawing from the power/interest matrix and capital classification of stakeholders (See Figure 3 and Table 2), these two factors have seemingly established their dominance primarily due to being articulated by stakeholders with high institutional power and decision-making authority.

Among the three emerging discourses, Factor 2 is seemingly the most hegemonic both ideologically and institutionally. Factor 2 is mainly composed of the State Hydraulic Works (DSI) officials, Regional Directorate of Development of Konya Plains (KOP BKI), agricultural chambers with high political lobbying power, irrigation unions and provincial directorates of the Ministry of Agriculture and Forestry. These stakeholders, who are aligned with the national development goals, have significant political influence and sectoral legitimacy, reinforced by their position as high power and high interest actors. Their narrative carries an important political resonance as it appeals to themes of national food security, rural livelihoods and economic growth. These themes position the Basin as a highly crucial agricultural heartland that must be safeguarded through technical and material

interventions to water scarcity issues for the so-called common good. These arguments resonate with the broader political-economy agenda of Türkiye, particularly in the sense of the state's historical emphasis on regional development, centralised planning and hydraulic engineering. As such, this discourse is not only widely accepted within the state institutions, but it also functions as the main ideological pillar of water-related investments and policy justifications in the region.

Aligned with this dominant developmentalist rationale, there is Factor 3 as a discourse grounded in bureaucratic expertise and institutional control. Factor 3 is mainly composed of bureaucratic and administrative actors such as provincial directorates of the Ministry of Agriculture and Forestry, irrigation unions who work under the State Hydraulic Works and policy maker state institution General Directorate of Water Management (SYGM in Turkish abbreviation). These actors possess both formal authority and proximity to policy execution. These stakeholders are also positioned as high power and high interest actors with high economic capital but relatively lower social and human capital as revealed by the stakeholder mapping. Factor 3 is not found to be as expansive as Factor 2 regarding its ideological scope; however, it still plays a crucial managerial role in water governance. This discourse frames water scarcity as a result of both natural constraints and irrational behaviour by farmers; in particular the overuse of water for profit-oriented crops and a general lack of environmental awareness in farmers. It calls for a demand-side management strategy that promotes behavioural regulation, education and increased monitoring all the while expressing trust and limited to no criticisms of the central government regarding water governance in the Basin.

Together, these two discourses form a dual-layered hegemonic structure which is what Hajer (1993) calls a discourse coalition. Factor 2 dominates the ideological and policy agenda that create the basis of the legitimization of large-scale infrastructure projects, frame water as a mere developmental input and resist critical or transformative narratives. Factor 3 manages the implementation layer of this dual hegemony. It focuses on optimizing water use through promoting bureaucratic rationality, technical expertise and top-down regulation. The synergy between the two discourses ensures the establishment and maintenance of technocratic-modernist principles both at the macro-policy level through large-scale supply interventions and at the micro-regulatory level through farmer behaviour management and institutional oversight. The outcome is a closed hegemonic discursive system where state-led infrastructural expansion and regulatory control are framed as the only viable and rational responses when it comes to addressing water scarcity in the Basin.

As a sharp contrast, though, Factor 1 which promotes transformative water governance grounded in political ecology, participatory principles and respecting ecological limitsseems to be sidelined and remains marginalized. This discourse is mainly composed of academics, NGO representatives and nature conservation departments within state institutions. According to the preliminary institutional analysis and stakeholder mapping, these actors possess high interest but low institutional and discursive power. Their critiques of centralised top-down governance approach, technocratic infrastructure expansions and growth-centric policies are sidelined. This is not because they lack coherence or empirical evidence but rather because they are not institutionally embedded. Their absence from the high-power holding quadrants of the stakeholder map paves the way to a discursive exclusion which limits their ability to influence policy agendas and implementation strategies. This configuration of power presented, does not manifest solely through coercion but is naturalised through institutional norms, planning frameworks and dominant narratives that reduce water governance to matters of engineering, supply-demand management and bureaucratic efficiency and expertise.

This hegemonic configuration of power has significant implications for water governance in both the Konya Closed Basin and in Türkiye on a broader scale. Governance is narrowed to a limited repertoire of supply side interventions and expansion, demand side behavioural regulation which leaves structural issues such as policy incoherence, land use patterns and political inequalities unaddressed. Under this dual discursive system, environmental degradation is depoliticized. Water scarcity and environmental degradation is treated as an apolitical, technical failure instead of a consequence of political and institutional priorities and shortcomings. Moreover, the social responsibility is individualized especially under Factor 3 which takes farmers as the wrong-doers and not co-constructors of water governance.

The dual dominance by Factor 2 and 3, both reflects and reinforces the central features of Turkish water governance; historically privileges centralised control, top-down governance, infrastructural expansion and technocratic planning. It is also a testament to why efforts to ensure alternative, democratic, inclusive and ecologically sensitive governance models are not gaining popularity and legitimacy in the policy making and implementation arena.

6.3. Hydrosocial Entanglements: Conflicts are Political and Discursive

Understanding the water crisis in the Konya Closed Basin requires moving beyond purely hydrological or infrastructural perspectives. The crisis in question reflects deeply embedded

hydrosocial entanglements in which water is constantly co-produced through ecological processes, socio-political structures and discursive constructions. Given this context, water cannot be deemed as a simple material resource but a site of contested meanings, power relations and assigned values. What Q methodology reveals through the emerging discourses is that conflicts over water governance are fundamentally discursive and political in nature. For instance, Factor 1 sees water scarcity as a symptom of a broader frame; a symptom of broader socio-political dysfunctions such as top-down policy design, neoliberal developmentalism and institutional exclusion. As a contrast, Factors 2 and 3 depoliticize water issues as they see the root cause either as a technical issue (Factor 2) or behavioural and managerial failures (Factor 3). Contrary to the claim of being apolitical, these framings are neither neutral nor apolitical; they are deeply political acts that define whose knowledge counts, whose interests are prioritized over whose and what futures are imaginable and what futures are not.

The concept of hydrosocial cycle (Linton & Budds, 2014) is informing here: hydrosocial cycle does not position water as an external natural flow to be managed but as a part of a dynamic, socio-politically constructed system shaped by institutional power, political economy of a given society or of time and discursive regimes. In this sense, the dominance of technocratic and developmentalist discourses should not be regarded as merely a matter of language but as a mechanism of governance; it is a way to regulate access, legitimize particular actors while delegitimizing others. Conflicting perceptions of agricultural practices make these entanglements particularly visible. For Factor 1, unsustainable irrigation in the Basin is structurally incentivized by state policy and economic pressures. On the other hand, Factor 3 blames individual farmers' lack of awareness for the water scarcity issues in the Basin. Meanwhile, Factor 2 defends those same practices in the name of national economic interest and food security. These differentiations in problem framing is not only informing different diagnosis and solutions but they, indeed, reflect the underlying power asymmetries: stakeholders with institutional authority define problems in ways that reproduce their own legitimacy all the while those proposing alternative framings (e.g., NGOs, academics) are marginalized despite their expertise and commitment to understanding and solving the issues in the Basin.

The integration of stakeholder mapping and analysis gives important insights into how discursive dominance of certain groups is enhanced by material and symbolic power. Findings suggest that the policymaking institutions gatekeep key economic and human resources while lacking strong social capital – particularly in their connections to local actors and communities. This relative isolation at hand paves the way for a technocratic, top-down approach to governance that tends to overlook lived experiences and contextual needs. On the other hand, NGOs, academics and environmental protection

institutions remain excluded from influencing water governance agendas despite having high levels of knowledge and expertise regarding the subject matter. This imbalance of material and symbolic power between stakeholder groups leads to the creation of structural barriers to value pluralism and inclusivity in the country's governance landscape. As a result, the centralisation of authority is reinforced, and socio-environmental vulnerabilities within the Basin are reproduced.

The water crisis in the Konya Closed Basin is ultimately a hydrosocial conflict in which material scarcity has never been only about the natural flow of water but is inseparable from struggles over meaning, authority and values. Addressing such a crisis is not achievable only by technical or infrastructural interventions; it rather calls for a reconfiguration of the discursive field that can accommodate plural knowledges, challenge hegemonic narratives and make space for more democratic hydrosocial futures. Moving beyond this discursive closure requires more than introducing technical innovations or incremental reforms. An immediate repoliticization of water governance in the Konya Closed Basin is necessary. The developmentalist orthodoxy should be challenged, a space for local agency and environmental ethics must be reclaimed and discursive power across the governance landscape must be redistributed. A reflexive development (Arsel, 2016; Pieterse, 1998) path that centres value pluralism, inclusive governance and care for nature should be taken in Türkiye. Only then can sustainable, just and adaptive water futures be meaningfully imagined and pursued in the Konya Closed Basin and beyond.

6.4. Water Infrastructures and Developmentalism in the Konya Closed Basin

The Konya Closed Basin, as it is the case in other semi-arid regions of Türkiye, has been at the centre of an infrastructure-led water governance model which is deeply embedded in the ideals of developmentalism, modernisation and technocratic control. Large-scale infrastructure projects such as the *Mavi Tünel* inter-basin water transfer project, are presented as viable solutions to water scarcity issues experienced in the Basin. Although these interventions are viewed as apolitical and neutral, they are far from being neutral when seen through a political ecology lens. On the contrary, these interventions constitute active efforts to reshape the hydro-social configurations in alignment with dominant political and economic interests. The findings further affirm this by demonstrating that Factor 2 and Factor 3, as they are both composed of influential state institutions, technical experts, policy implementers and local authorities, both reinforce discourses which are in heavy alignment with this infrastructural developmentalist paradigm.

Factor 2 visibly calls for an infrastructural expansion through which economic growth and

national development are deemed possible. Inter-basin water transfer projects and engineered supply-side solutions are seen as the only viable solutions to water scarcity in the Basin. Water is positioned as a tool for the continuity of productivity, economic growth and regional development by this factor. The celebration of and support towards inter-basin water transfer projects, as visible in Statement 27, reveal a hegemonic narrative of progress which functions as a legitimization of large-scale interventions. This technocratic developmentalism is clearly a reflection of the hydraulic mission identified by Sayan, Bilgen & Kibaroğlu (2025) where infrastructures are not merely material constructions, but they are the manifestations of state power, control and territorialization. Factor 3, on the other hand, is less ambitious and supportive of the new infrastructural interventions; however, they still align with the rationalization of the existing systems of water governance through technical efficiency, monitoring and centralised governance. It calls for a rationalization of water use without a transformative change that aims at improving state efficacy but without disrupting the existing dominant developmentalist rationale. Both factors marginalize the discourse articulated by Factor 1; a discourse that emphasizes ecological limits, participatory governance and alternative narratives of sustainability.

This configuration of power in the Basin reproduces what Sayan et al. (2025) defines as "infrastructural regionalism" where water infrastructures shape and reshape by regional politics. Their article focuses on Euphrates-Tigris Basin; however, the insights they provide in their article are also applicable to the Konya context where large-infrastructure projects reconfigure hydro-social relations, rebrand regions (e.g., "the breadbasket of Türkiye") and reestablish state authority through technopolitical interventions and as a result, territorialize entire regions. Like in the case of the GAP, these infrastructure projects mainly aim at transforming semi-arid regions where agricultural productivity is vital into governable and modernized zones that are fully integrated into the neoliberal order.

Today, surface water governance still has similar problematic premises embedded within; developmentalist approach centring economic growth is still the favoured discourse in Türkiye's current approach regarding the subject matter. Drawing from Turhan's (2016) findings, this thesis contends that the regional development program in Konya, KOP, may repeat and perpetuate the mistakes of liberal developmentalist surface water governance, sharing a similar inadequate trend with former irrigation and regional development projects (e.g. GAP).

These developmentalist discourses do not only establish their domination onto infrastructural decisions but also rule out other perspectives which are environmentally and socio-politically critical.

The *Mavi Tünel*, for example, is rarely questioned for its ecological impacts on donor basins or regarding its sustainability under worsening climate conditions (Berke et al., 2014). Many of the local stakeholders, even the ones who align themselves with Factor 2 or 3, expressed their concerns on the destruction of natural hotspots during the construction phase of the *Mavi Tünel* during in depth interview phase of the research. However, they still support developmentalism and the continuation of irrigation-heavy agricultural production in the Basin and they call for an expansion of large-scale infrastructures. This lack of critical reflection on the way in which the water crisis is approached in the Basin clearly highlights how discursive power shapes the perceptions of what is viable, what is rational and what is necessary. This absence of critical approach is, indeed, directly linked to the discursive hegemony of infrastructural modernism, legitimized by elite technocratic institutions and rationalized through claims of water scarcity, economic necessity and national progress.

This dynamic speaks to the hydrosocial territories concept (Boelens et al., 2025) which contends that large-water infrastructures do not only redistribute flows of water but reorganise social relationships, spatial boundaries and the meanings ascribed to water. In this regard, projects like Mavi Tünel are not only neutral technical solutions to the issue of water scarcity, but they are interventions interventions that actively remake the Konya Closed Basin into a certain socio-political and ecological space. The region is organised into a technical imaginary for modernisation, economic growth and national progress, while alternatives based on ecological limits and social equity, or forms of participatory governance, are sidelined. By institutionalising a developmentalist and technocratic view of water governance, these projects consolidate state power, at the same time reinforcing power asymmetries in the governance landscape, thereby restricting more plural and adaptive governance approaches.

7. CONCLUSION

This thesis explored the political dynamics of water governance in Türkiye which is contextualized in the country's historical trajectory. Building on top of the historical context, a case study in the Konya Closed Basin allowed me to analyse repercussions and continuous reflections of this trajectory onto today's lived struggles. The research question aimed at revealing the main conflicts regarding surface water governance in the Konya Closed Basin and in Türkiye on a broader scale. The thesis adopted a political ecology perspective to answer my question while putting a deliberate distance from a purely hydrological and technocratic understanding of water and water scarcity. The adopted political ecology perspective, informed by the concept of discursive power and hydrosocial cycle, allowed me to trace how water is governed, contested and imagined in a basin that is marked by its ecological fragility and sociopolitical complexity. Drawn from a combination of Q methodology and stakeholder mapping, the findings have made one thing abundantly clear: the water crisis in the Konya Closed Basin is not simply a problem of changing natural conditions but a crisis of governance, values and power. The conflicts that are seemingly prevailing in the Basin's water governance are not merely technical challenges to be solved through engineering fixes or efficiency strategies. They are, instead, rooted in divergent perspectives, conflicting stakeholder interests, historically embedded power asymmetries and institutional structures that favour some discourses while silencing others.

A central insight of this research is the understanding that scarcity is not natural. It should be acknowledged that the climate change and already existing semi-arid conditions do have a contribution to the Basin's water stress; however, framing water scarcity as an inevitable consequence of natural conditions depoliticizes the issue at hand and legitimizes technocratic solutions that often exacerbate socio-environmental struggles in the Basin. Through employing Q methodology, this thesis discovered 3 emerging discourses that frame and respond to water scarcity in distinct ways. Factor 1 – Transformative Water Governance discourse – perceives scarcity as an outcome of flawed governance structures, centralised decision-making, and exclusionary growth-centric development paradigms. This discourse calls for a systemic change grounded in participatory governance, respecting ecological limits, and transformative policy reforms. Although this discourse is coherent and empirically grounded, it is institutionally marginalized. Factor 2 – Developmentalist Water Supply discourse – frames scarcity as a technical and infrastructural challenge and calls for an increased state-led water mobilization through large-scale projects. It reflects a continuation of Türkiye's historical hydraulic mission and aligns closely with national development goals, economic

productivity, and food security. This discourse is ideologically dominant and institutionally embedded, and it forms the backbone of current water policies in the region. Factor 3 – Rationalized Water Use and Controlled Statism discourse- is technocratic in nature and places the blame of water scarcity on farmer behaviour, inefficient practices, and poor awareness. It takes away the responsibility from institutions to individuals, which calls for a disciplinary approach to water governance based on regulation, monitoring, and behavioural correction. These discursive frames are far from being neutral. They define what is to be considered as a problem, who is to blame, and what solutions are deemed legitimate. In doing so, they structure not only policy agendas but also stakeholder engagement, access to resources, and the boundaries of what is politically thinkable.

A dual-layered discursive hegemony of Factor 2 and 3 is an important outcome. Although their focal points are distinct from each other – one paying special attention to the necessity of supply-side interventions and the other centring regulatory discipline – they both share a technocratic-modernist orientation. This dual layered hegemony works in ways that reinforces centralised control while prioritizing infrastructural expansion and economic growth. As a result, it systematically overlooks critical perspectives like those elaborated in Factor 1. This hegemony in question is not only ideological but institutionally backed up because the stakeholders aligning with Factors 2 and 3 possess significant power due to their formal authority positions and sectoral legitimacy. State institutions such as the State Hydraulic Works (DSI), regional development office KOP BKI, and agricultural chambers with strong political lobbying power are the most prominent members of these two factors composing the above-mentioned dual-layered hegemony. Their discursive dominance in the Basin is maintained not only through their policy influence but also through narrative control – by framing other perspectives as impractical, inefficient or naïve. On the other hand, stakeholders whose voices are aligned with Factor 1 – which are academics, NGO representatives, environmental protection departments – are structurally and ideologically sidelined. These stakeholders are excluded from key decision-making spaces despite having their high interest for and expertise of the subject matter.

To better understand how discursive dominance is tied to material and symbolic power, stakeholder mapping and capital analysis were integrated into the analysis. Stakeholder mapping exercise helped to uncover power asymmetries; while some actors possess both high power and high interest, many others with valuable insights remain peripheral. A particularly insightful output is the widespread absence or limitation of social capital among central policymaking institutions. This isolation from local realities directly translates into a top-down governance approach that falls short in addressing local needs and actively reproduces socio-environmental vulnerabilities. Economic, and

in some cases also human capital, was found to be disproportionately accumulated in a handful of state institutions which, as a result, reinforces their capacity to shape policy and governance agendas. On the other hand, civil society organizations, environmental protections institutions and academics are largely excluded from shaping said agendas despite having high human capital, rich knowledge and expertise. This portrayed imbalance of material asymmetries prevents the emergence of plural, inclusive and adaptive governance models; instead, it sets the tone for a centralised and exclusionary governance paradigm.

Obtaining a better understanding of the hydrosocial dynamics of the Konya Closed Basin was one of the central aims of this thesis. Water here is not merely a physical resource to be commodified but a co-produced entity that is shaped by infrastructure, ecological processes, institutional norms and competing narratives all around. The Basin is not just drying out by time; it is being remade – materially, discursively and politically – through a governance paradigm that prioritizes economic growth over ecological sustainability, central control over democratic participation, and infrastructural expansion over systemic transformation. This remaking is most visible in the construction of mega-projects, for instance the *Mavi Tünel* project in the Basin, which alters hydrological flows and reconfigures the socio-political relations of the region. These above-mentioned projects are discursively framed as inevitable, the most viable or necessary in the face of water scarcity; however, they externalize environmental and social costs to donor regions, and maybe most importantly, to the future generations. In doing so, they extend the spatial and temporal reach of socio-environmental injustice.

Acknowledging the urgency of recognizing and accommodating discursive plurality in water governance is one of the key implications of this thesis. The current hegemonic configuration of power in the water governance of Türkiye leaves little to no room for alternative voices, let alone a transformative change. A redesigning of policy frameworks in the country is urgently needed to break from this closure and to institutionalize inclusive deliberation, empower marginalized stakeholders and challenge the assumptions of technocratic governance. However, this does not only necessitate creating formal participatory multistakeholder platforms, but it also obliges a redistribution of discursive power in the water governance landscape to ensure that critical perspectives can meaningfully shape policy rather than merely perform consultation. This reconfiguration also requires a shift in the metrics of success; indicators of ecological resilience, distributive justice and stakeholder satisfaction should take the place of water supply augmentation, agricultural output and economic growth. Moreover, the Turkish state must acknowledge that sustainable water governance cannot be achieved through infrastructure alone. It requires confronting uncomfortable questions about land

use, economic priorities, political representation, and institutional accountability. Without such reflexivity, even the most well-funded interventions will fall short; or worse, they will exacerbate the very problems they intend to solve.

Each region, each basin, has different dynamics to be discovered; yet the overall trajectory and discursive hegemony of the country is assumed to be translated onto different basins as well. Future research could benefit from multi-basin comparisons to trace patterns of socio-political configuration of power across different river basins with different ecological conditions. Examining how discursive power in the water governance field operates, especially coupled with climate change adaptation and mitigation strategies of the country, can be insightful. Equally important is the need for longitudinal studies that trace how discourses evolve over time and how policy windows for transformation may open or close in response to crises, movements, or political shifts.

In conclusion, the story of water in the Konya Closed Basin is about more than scarcity, infrastructure or governance. At its core, it is posing broader questions about the kind of society which is to be envisioned for the future. Current trajectories reduce water to a mere commodity – an object to be dominated, exploited and carefully engineered for fostering economic growth for a short while. Yet alternative pathways for the Basin remains possible; pathways that take water as a relational, shared, and vital substance that connects communities, ecosystems and futures.

This thesis argued for the importance of such alternative imaginaries. Not solely as utopian fantasies but as necessary interventions for recalibrating values, institutions and discourses in water governance. Rethinking water governance requires the confrontation of twisted power relations, questioning dominant norms and embracing the inherent complexity of socio-ecological systems. Without a doubt, such endeavours are demanding; however, they are vital to foster more democratic, equitable and sustainable practices of governance in Türkiye – ones that shaped through dialogue, reflexivity and care.

Ultimately, water governance in the Konya Closed Basin must not be understood as only a techno-managerial challenge but rather as a profoundly political and ethical process. Recognising water in its plural meanings opens the possibility of governance that is more inclusive, just and responsive to both ecological limits and social needs.

REFERENCES

Acar, B., Topak, R., & Direk, M. (2010). Impacts of pressurized irrigation technologies on efficient water resources uses in semi-arid climate of Konya Basin of Turkey. *International Journal of Sustainable Water & Environmental Systems, 1*(1), 1-4.

Adaman, F., & Arsel, M. (2012). Political economy of the environment in Turkey. In M. Heper & S. Sayari (Eds.), *The Routledge handbook of modern Turkey* (pp. 317–335). Routledge.

Adaman, F., Akbulut, B., & Arsel, M. (2016). Türkiye'de kalkınmacılığı yeniden okumak: HES'ler ve dönüşen devlet-toplum-doğa ilişkileri. In S. Aksu, S. Erensü, & E. Evren (Eds*.), Sudan sebepler: Türkiye'de neoliberal su-enerji politikaları ve direnişler* (pp.167–182). İstanbul: İletişim.

Altaytas, K. M. (2024). Agrarian change in neoliberal Turkey: Insights from privatization of the sugar industry. *Journal of Agrarian Change*, *24*(1), e12562.

Angermuller, J. (2018). Accumulating discursive capital, valuating subject positions. From Marx to Foucault. *Critical Discourse Studies*, *15*, 414 - 425.

Aricanli, T., & Rodrik, D. (1990). An overview of Turkey's experience with economic liberalization and structural adjustment. *World development*, *18*(10), 1343-1350.

Arsel, M. (2016). Reflexive developmentalism? Toward an environmental critique of modernization. In F. Adaman & M. Arsel (Eds.), Environmentalism in Turkey: Between Democracy and Development (pp. 24–43). Routledge.

Aydin, Z. (2010). Neo-Liberal transformation of Turkish agriculture. *Journal of Agrarian Change, 10*(2), 149-187.

Ayhan, B., & Üstüner, Y. (2022). Turkey's public–private partnership experience: a political economy perspective. *Southeast European and Black Sea Studies, 23*, 115 - 138.

Bakker, K. (2012). *Water: Political, biopolitical, material. Social studies of science, 42*(4), 616-623.

Baldwin, G. L., & Stwalley III, R. M. (2022). Opportunities for the scale-up of irrigation systems in Ghana, West Africa. *Sustainability, 14*(14), 8716.

Barry, J., & Proops, J. (1999). Seeking sustainability discourses with Q methodology. *Ecological Economics, 28*, 337-345.

Beck, D., & Storópoli, J. (2021). Cities through the lens of Stakeholder Theory: A literature review. *Cities,* 118, 103377. https://doi.org/10.1016/J.CITIES.2021.103377

Bryant, R. L. (1998). Power, knowledge and political ecology in the third world: a review. *Progress in physical geography*, *22*(1), 79-94.

Laplume, A., Sonpar, K., & Litz, R. (2008). Stakeholder Theory: Reviewing a Theory That Moves Us. *Journal of Management*, *34*, 1152 - 1189.

Berke, M., Dıvrak, B. B., & Din. Sarısoy, H. (2014). *Konya'da suyun bugünü raporu*. WWF Türkiye. https://wwftr.awsassets.panda.org/downloads/konya_da_suyun_bugnu_raporu.pdf

Bilgen, A. (2018). The Southeastern Anatolia Project (GAP) revisited: The evolution of GAP over forty years. *New Perspectives on Turkey, 58*, 125 - 154.

Biswas, A. K. (2004). Integrated water resources management: A reassessment: A water forum contribution. *Water International, 29*(2), 248–256.

Boelens, R., Hommes, L., Hoogesteger, J., Swyngedouw, E., Vos, J., & Wester, P: (2025). Hydrosocial territories: imaginaries, materialities, and struggles over knowledge, order and meaning. *Water International, 50*(5), 426-462.

Boelens, R., Shah, E., & Bruins, B. (2019). Contested knowledges: Large dams and megahydraulic development. *Water, 11*(3), 416.

Bourdieu, P. (2018). The forms of capital. In *The sociology of economic life* (pp. 78-92). Routledge.

Braun, Y. A. (2011). The reproduction of inequality: Race, class, gender, and the social organization of work at sites of large-scale development projects. *Social Problems, 58*(2), 281-303.

Cecen, A., Doğruel, A., & Doğruel, F. (1994). Economic Growth and Structural Change in Turkey 1960–88. *International Journal of Middle East Studies, 26*, 37 - 56.

Cizre-Sakallioglu, U., & Yeldan, E. (2000). Politics, Society and Financial Liberalization: Turkey in the 1990s. *Development and Change, 31*, 481-508.

Colvin, R., Witt, G., & Lacey, J. (2020). Power, perspective, and privilege: The challenge of translating stakeholder theory from business management to environmental and natural resource management. *Journal of environmental management, 271*, 110974.

Conker, A. (2018). Understanding Turkish water nationalism and its role in the historical hydraulic development of Turkey. *Nationalities Papers, 46*(5), 877-891.

Cottafava, D., & Corazza, L. (2020). Co-design of a stakeholders' ecosystem: an assessment methodology by linking social network analysis, stakeholder theory and participatory mapping. Kybernetes, 50, 836-858.

Cox, R. W. (1981). Social forces, states and world orders beyond international relations theory. *Millennium: Journal of International Studies, 10*(2), 126–155.

Crow-Miller, B., Webber, M., & Molle, F. (2017). The (re)turn to infrastructure for water management? *Water Alternatives, 10*(2), 195–207.

Cuppen, E., Bosch-Rekveldt, M., Pikaar, E., & Mehos, D. (2016). Stakeholder engagement in large-scale energy infrastructure projects: Revealing perspectives using Q methodology. *International Journal of Project Management, 34*, 1347-1359.

Curry, R., Barry, J., & McClenaghan, A. (2013). Northern Visions? Applying Q methodology to understand stakeholder views on the environmental and resource dimensions of sustainability. *Journal of Environmental Planning and Management, 56*, 624 - 649.

Çarkoğlu, A., & Eder, M. (2016). Developmentalism alla Turca: The Southeastern Anatolia Development Project (GAP). In F. Adaman & M. Arsel (Eds.), *Environmentalism in Turkey: Between Democracy and Development?* (pp. 167–182). Routledge.

Demir, V. (2022). Trend analysis of lakes and sinkholes in the Konya Closed Basin, in Turkey. *Natural Hazards, 112*(3), 2873-2912.

Devlet Su İşleri [DSİ]. (n.d.). *DSİ Genel Müdürlüğü 6200 sayılı kanun ile kurulmuş ve 1954 yılında teşkilatlanmıştır*. Devlet Su İşleri. https://www.dsi.gov.tr/Sayfa/Detay/692

Dursun, S. (2020). Effects of Climate Change and Drought in Konya: A Review. *International Journal of Ecosystems and Ecology Science (IJEES), 10*(4), 595–602.

Enlil, Z., & Dinçer, İ. (2022). Political dilemmas in the making of a sustainable city-region: The case of Istanbul. *Sustainability*, *14*(6), 3299.

Etkin, L., Helms, M., Turkkan, U., & Morris, D. (2000). The economic emergence of Turkey. *European Business Review, 12*, 64-75.

Fletcher, A. J. (2017). Applying critical realism in qualitative research: methodology meets method. *International journal of social research methodology, 20*(2), 181-194.

Flyvbjerg, B. (1998). Habermas and Foucault: Thinkers for Civil Society? *The British Journal of Sociology, 49*(2), 210–233.

Forrester, J., Cook, B., Bracken, L., Cinderby, S., & Donaldson, A. (2015). Combining participatory mapping with Q-methodology to map stakeholder perceptions of complex environmental problems. *Applied Geography, 56*, 199-208.

Foucault, M. (1978). *The History of Sexuality, Volume 1: An Introduction*. New York: Pantheon Books.

Foucault, M. (1980). *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*. New York: Pantheon Books.

Guizzo, D. (2021). Reassessing Foucault: Power in the History of Political Economy. *International Journal of Political Economy, 50*, 60 - 74.

Guncavdi, O., Bleaney, M., & McKay, A. (1998). Financial liberalisation and private investment: evidence from Turkey. *Journal of Development Economics, 57*, 443-455.

Hajer, M. A. (1993). Discourse Coalitions and the Institutionalization of Practice: The Case of Acid Rain in Great Britain. In F. Fischer & J. Forester (Eds.), *The Argumentative Turn in Policy Analysis and Planning* (pp. 43–76). Durham, NC: Duke University Press.

Hajer, M. A. (1995). *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process.* Oxford: Clarendon Press.

Hugé, J., Velde, K., Benitez-Capistros, F., Japay, J., Satyanarayana, B., Ishak, M., Quispe-Zuniga, M., Lokman, B., Sulong, I., Koedam, N., & Dahdouh-Guebas, F. (2016). Mapping discourses using Q methodology in Matang Mangrove Forest, Malaysia. *Journal of environmental management, 183* Pt 3, 988-997.

Hayat, S., Gupta, J., Vegelin, C., & Jamali, H. (2022). A review of hydro-hegemony and transboundary water governance. *Water Policy*, *24*(11), 1723-1740.

Interreg Central Europe. (2024). Enhancing Stakeholder Engagement through the Power/Interest Matrix. Interreg Central Europe. Retrieved August 20, 2025, from https://www.interreg-central.eu/news/enhancing-stakeholder-engagement-through-the-power-interest-matrix/

Islar, M. (2012). Privatised hydropower development in Turkey: A case of water grabbing? *Water Alternatives, 5*(2), 1-20.

Islar, M. (2013). *Private rivers: Politics of renewable energy and the rise of water struggles in Turkey* [Doctoral dissertation, Lund University]. Lund University. https://lup.lub.lu.se/record/3735486.

Islar, M., & Boda, C. (2014). Political ecology of inter-basin water transfers in Turkish water governance. *Ecology and Society, 19*(4).

Kaika, M. (2006). Dams as symbols of modernization: The urbanization of nature between geographical imagination and materiality. *Annals of the Association of American Geographers, 96*(2), 276-301.

Karakoyunlu, M. (2024). Türkiye'nin Kalkınma Sürecinde Bir Model: Konya Ovasi Projesi Bölge Kalkinma İdaresi. *Akademik Düşünce Dergisi* (10), 16-44. https://doi.org/10.53507/akademikdusunce.1581985

Kaygusuz, K., & Arsel, M. (2016). Energy politics and policy. In F. Adaman & M. Arsel (Eds.), *Environmentalism in Turkey* (pp. 163–180). Routledge. https://doi.org/10.4324/9781315256245

Keyder, Ç., & Yenal, Z. (2011). Agrarian change under globalization: Markets and insecurity in Turkish agriculture. *Journal of Agrarian Change, 11*(1), 60-86.

KOP. (n.d.). *Tarihi Süreç - Konya Ovası Projesi - KOP*. (KOP) Bölge Kalkınma İdaresi Başkanlığı. Retrieved August 29, 2025, from https://www.kop.gov.tr/tarihi-surec

Lavers, T., & Dye, B. (2019). Theorising the political economy of dams: Towards a research agenda (FutureDAMS Working Paper 001). University of Manchester. https://ssrn.com/abstract=3538193

Lelandais, G. E. (2016). Drought, social inequalities, adaptation, and farmers' mobility in the Konya Plain of Turkey. In R. McLeman, J. Schade, & T. Faist (Eds.), *Environmental migration and social inequality* (Advances in Global Change Research, Vol. 61, pp. 91–102). Springer. https://doi.org/10.1007/978-3-319-25796-9_6

Li, M., Xu, Y., Fu, Q., Singh, V. P., Liu, D., & Li, T. (2020). Efficient irrigation water allocation and its impact on agricultural sustainability and water scarcity under uncertainty. *Journal of Hydrology, 586*, 124888.

Linton, J., & Budds, J. (2014). The hydrosocial cycle: Defining and mobilizing a relational dialectical approach to water. *Geoforum, 57*, 170-180.

Livesey, S. (2002). The Discourse of the Middle Ground. *Management Communication Quarterly, 15*, 313 - 349.

Lopez-Gunn, E., & Ramón Llamas, M. (2008, August). Re-thinking water scarcity: Can science and technology solve the global water crisis? *Natural Resources Forum, 32*(3), 228-238

Mahajan, R., Lim, W. M., Sareen, M., Kumar, S., & Panwar, R. (2023). Stakeholder theory. *Journal*

of Business Research, 166, 114104. https://doi.org/10.1016/j.jbusres.2023.114104

McDonnell, R. A. (2008). Challenges for integrated water resources management: How do we provide the knowledge to support truly integrated thinking? *International Journal of Water Resources Development*, *24*(1), 131–143.

Meran, G., Siehlow, M., & von Hirschhausen, C. (2020). Integrated water resource management: Principles and applications. In *The economics of water: rules and institutions* (pp. 23-121). Cham: Springer International Publishing.

Molle, F. (2009). Water, politics and river basin governance: Repoliticizing approaches to river basin management. Water International, 34(1), 62-70.

Müftüler, M. (1995). Turkish economic liberalization and European integration. Middle Eastern Studies, 31, 85-98.

O'Brien, K. L., & Wolf, J. (2010). A values-based approach to vulnerability and adaptation to climate change. *Wiley Interdisciplinary Reviews: Climate Change, 1*(2), 232–242.

Official Gazette (Resmi Gazete). (2006a) Tarım Kanunu No. 5488 (25 April 2006, No. 26149).

Official Gazette (Resmi Gazete). (2006b). Tohumculuk Kanunu No. 5553 (31 Oct 2006, No. 26326).

Orhan, O. (2021). Monitoring of land subsidence due to excessive groundwater extraction using small baseline subset technique in Konya, Turkey. *Environmental Monitoring and Assessment, 193*(4), 174.

Ökten, S. (2016). Konya Havzasında Su Yönetimi ve Çevre Sorunları Üzerine Genel Çözüme Yönelik Çalışmalar. *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, *3*(5), 124-147.

Öztürk, S., Ubay Tönük, G., & Gülgün, B. (2014). Türkiye'de havza yönetimi ve yönetim planı yaklaşımları. *Ziraat Mühendisliği, 361*, 59–63.

Perreault, T. (2017). What kind of governance for what kind of equity? Towards a theorization of justice in water governance. In R. Boelens, B. Crow, J. Hoogesteger, F. E. Lu, E. Swyngedouw, & J. Vos (Eds.), *Hydrosocial territories and water equity* (pp. 38–50). Routledge.

Pieterse, J. N. (1998). 343±373. # Institute of Social Studies. In Development and Change (Vol. 29). Blackwell Publishers Ltd, 108 Cowley Rd.

Savenije, H. H., & Van der Zaag, P. (2008). Integrated water resources management: Concepts and issues. *Physics and Chemistry of the Earth, Parts A/B/C, 33*(5), 290-297.

Sayan, R. C., Bilgen, A., & Kibaroğlu, A. (2025). Towards water regionalism? Examining the linkages between water, infrastructures, and regionalism in Turkey. *International Journal of Water Resources Development, 41*(3), 540-562.

Schmidt, J. J. (2014). Historicising the hydrosocial cycle. *Water Alternatives, 7*(1), 220–234.

Schneider, F., Kallis, G., & Martinez-Alier, J. (2010). Crisis or opportunity? Economic degrowth for social equity and ecological sustainability. Introduction to this special issue. *Journal of Cleaner Production, 18*(6), 511–518. https://doi.org/10.1016/j.jclepro.2010.01.014

Sharp, J. P. (2000). Towards a Critical Analysis of Foucault's Discursive Power. *Political Geography*, *19*(7), 957–974.

Stephenson, W. (1953). *The study of behavior: Q-technique and its methodology*. University of Chicago Press.

Swyngedouw, E. (2009). The political economy and political ecology of the hydro-social cycle. *Journal of Contemporary Water Research & Education, 142*(1), 56- 60.

Şen, Ö. L. (2013). *A holistic view of climate change and its impacts in Turkey* (Mercator-IPC Fellowship Report). Istanbul Policy Center, Sabancı University. https://ipc.sabanciuniv.edu/Content/Images/CKeditorImages/20200327-01030010.pdf

Tansel, C. (2018). Reproducing authoritarian neoliberalism in Turkey: urban governance and state restructuring in the shadow of executive centralization. *Globalizations, 16*, 320 - 335.

Tatoğlu, E., & Glaister, K. (1998). Western MNCs' FDI in Turkey: An Analysis of Location Specific Factors. *Management International Review, 38*, 133.

TBMM. (2021). Küresel iklim değişikliğinin etkilerinin en aza indirilmesi, kuraklıkla mücadele ve su kaynaklarının verimli kullanılması için alınması gereken tedbirlerin belirlenmesi amacıyla kurulan Meclis Araştırma Komisyonu raporu. Türkiye Büyük Millet Meclisi. http://www.tbmm.gov.tr/develop/owa/sirasayi_sd.sorgu_baslangic

Tilt, B. (2014). *Dams and development in China: The moral economy of water and power*. Columbia University Press.

Balasubramanyam, V., & Togan, S. (Eds.). (2016). *The economy of Turkey since liberalization*. Springer.

Torun, E., & Çakmak, B. (2024). Evaluation of water efficiency in agriculture: The case of the Konya closed basin. *Irrigation and Drainage, 73*(4), 1470-1482.

Turhan, E. (2016). Value-based adaptation to climate change and divergent developmentalisms in Turkish agriculture. *Ecological Economics, 121*, 140-148.

UNESCO World Water Assessment Programme. (2020). The United Nations world water development report 2020: Water and climate change (Executive summary, pp. 1–9). UN-Water. Retrieved from https://www.unwater.org/publications/un-world-water-development-report-2020

Van Assche, K., Beunen, R., & Duineveld, M. (2017). The will to knowledge: natural resource management and power/knowledge dynamics. *Journal of Environmental Policy & Planning*, *19*, 245 - 250.

Warner, J. F., Hoogesteger, J., & Pablo Hidalgo, J. (2017). Old Wine in New Bottles: The Adaptive Capacity of the Hydraulic Mission in Ecuador. *Water Alternatives*, *10*(2).

Woodhall, M. (1987). Human Capital Concepts. In *Economics of Education* (pp. 21–24). Elsevier. https://doi.org/10.1016/B978-0-08-033379-3.50011-5

World Bank. (2009). *Implementation Completion and Results Report: Turkey Agricultural Reform Implementation Project* (Report No. ICR00001155). World Bank. https://documents1.worldbank.org/curated/en/952161468308967946/pdf/ICR11550P070281

C0Disclosed012115191.pdf

WWF Türkiye. (2012). *Çılgın rüyalar boş umutlar: Havzalararası su transferi*. WWF Türkiye. https://www.stgm.org.tr/sites/default/files/2020-09/cilgin-ruyalar.-bos-umutlar-havzalar-arasi-su-transferleri.pdf

Yeniyurt, C., Hemmami, M., Çağırankaya, S., & Koopmanschap, E. (2011). *Türkiye'nin Ramsar alanlarında sulak alan yönetim planları değerlendirme raporu*. Doğa Derneği. https://dogadernegi.org/wp-content/uploads/2015/08/Türkiyenin-Ramsar-Alanlarında-Sulak-Alan-Yönetim-Planları-Değerlendirme-Raporu_Baskı.pdf

Yılmaz, G., Çolak, M. A., Özgencil, İ. K., Metin, M., Korkmaz, M., Ertuğrul, S., ... & Jeppesen, E. (2021). Decadal changes in size, salinity, waterbirds, and fish in lakes of the Konya Closed Basin, Turkey, associated with climate change and increasing water abstraction for agriculture. *Inland Waters, 11*(4), 538-555.

Zeitoun, M., & Mirumachi, N. (2008). Transboundary water interaction I: Reconsidering conflict and cooperation. *International Environmental Agreements: Politics, Law and Economics*, *8*(4), 297-316.

APPENDIX A: General Information on Q-Method Outputs

Table A.1. Statements in original language (Turkish)

1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.

26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.

Table A.2. Q-sorting respondent information

Respondent Number	**Sectoral Affiliation**	**Q-Sort Date**	**Q-sort Format**
1	State Hydraulic Works (DSİ)	23.01.2025	Face-to-face
2	State Hydraulic Works (DSİ)	24.01.2025	Face-to-face
3	Ministry of Agriculture and Forestry Konya Provincial Directorate	24.01.2025	Face-to-face
4	Ministry of Agriculture and Forestry - Department of Nature Conservation and Wetlands	24.01.2025	Face-to-face
5	UNDP	23.01.2025	Face-to-face
6	Academia	27.01.2025	Face-to-face
7	Irrigation Union	27.01.2025	Face-to-face
8	Ministry of Agriculture and Forestry – Beyşehir District Directorate	28.01.2025	Face-to-face
9	Irrigation Union	29.01.2025	Face-to-face
10	Farmers Association	31.01.2025	Face-to-face

11	Farmers Association	31.01.2025	Face-to-face
12	Ministry of Industry and Technology - Konya Plain Project Regional Development Administration (KOP BKI)	05.03.2025	Online
13	NGO	13.02.2025	Online
14	NGO	13.02.2025	Online
15	NGO	28.02.2025	Online
16	NGO	12.02.2025	Online
17	Academia	12.02.2025	Face-to-face
18	Academia	12.02.2025	Face-to-face
19	Ministry of Agriculture and Forestry - General Directorate of Water Management (SYGM)	26.02.2025	Online
20	Ministry of Agriculture and Forestry - General Directorate of Water Management (SYGM)	17.03.2025	Online
21	Irrigation Union	24.01.2025	Face-to-face
22	Ministry of Agriculture and Forestry Konya Provincial Directorate	24.01.2025	Face-to-face
23	NGO	10.03.2025	Online

Table A.3. Loadings with Defining Sorts Flagged in Grey

Respondent Number	**FG**	**F1**	**F2**	**F3**
14	F1-1	0.8851	-0.1259	0.0166
18	F1-2	0.8743	0.149	0.1254
17	F1-3	0.8676	0.1579	0.024
15	F1-4	0.8035	0.0328	-0.191
16	F1-5	0.7744	-0.003	0.1139
1	F1-6	0.707	0.3652	-0.0741
4	F1-7	0.6656	0.1379	-0.0509
3	F1-8	0.6372	0.0091	0.2349
13	F1-9	0.6151	0.0401	-0.0722
20	F1-10	0.5241	0.5062	-0.1897
5	F1-11	0.5062	0.505	0.3123
11	F2-1	-0.3345	0.763	-0.0836

22	F2-2	0.2457	0.678	0.1252
10	F2-3	-0.0423	0.6662	0.1678
12	F2-4	-0.5062	0.6431	-0.2793
6	F2-5	0.3689	0.6212	0.1541
23	F2-6	0.4807	0.609	0.012
2	F2-7	0.0744	0.5523	0.4708
7	F2-8	0.3264	0.3663	0.0569
8	F3-1	0.1215	-0.0637	0.8165
21	F3-2	-0.2495	0.0055	0.5068
9	F3-3	-0.1019	0.3023	0.4739
19	F3-4	0.3022	0.1178	0.4132

Table A.4. Factor Score Correlations

	F1	**F2**	**F3**
Factor 1	1	0.1416	0.134
Factor 2	0.1416	1	0.1427
Factor 3	0.134	0.1427	1

APPENDIX B: Q-Method Results for Factor 1

Table B.1. Contributing Q Sorts - Relative Weights

Q-Sort	Weight
Respondent 14	10.00
Respondent 18	9.08
Respondent 17	8.59
Respondent 15	5.55
Respondent 16	4.73
Respondent 1	3.46
Respondent 4	2.92
Respondent 3	2.63
Respondent 13	2.42

Table B.2. Contributing Q Sorts - Correlation Matrix

Q-Sort	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
Respondent 14	**100**	80	81	80	70	62	49	55	46
Respondent 18	80	**100**	80	67	64	61	58	55	46
Respondent 17	81	80	**100**	72	67	67	51	53	57
Respondent 15	80	67	72	**100**	67	56	52	42	46
Respondent 16	70	64	67	67	**100**	45	36	35	45
Respondent 1	62	61	67	56	45	**100**	47	30	46
Respondent 4	49	58	51	52	36	47	**100**	50	27
Respondent 3	55	55	53	42	35	30	50	**100**	42
Respondent 13	46	46	57	46	45	46	27	42	**100**

Table B.3. Factor Z-scores, Q sort values, and contributors' raw sort values

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	2.231	5	5	5	5	5	4	4	5	2	1
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	1.54	4	4	4	3	4	2	1	1	2	3
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	1.397	4	3	3	4	4	4	0	1	2	-1
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	1.311	3	4	2	3	1	2	2	3	4	2
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	1.23	3	3	4	2	2	5	1	0	1	-1
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.13	3	2	1	2	3	2	3	4	3	4

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	0.984	2	2	2	3	1	-1	5	0	5	1
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.866	2	3	2	1	2	3	3	-3	-1	2
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	0.767	2	1	1	2	3	1	0	2	2	3
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	0.742	2	2	1	1	1	0	2	2	3	4
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	0.619	1	0	3	1	1	0	4	3	-1	0
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	0.501	1	2	-1	1	3	3	3	-2	-2	0

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	0.45	1	0	-1	4	1	0	2	0	-2	5
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	0.316	1	0	2	2	-3	2	0	1	1	-1
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	0.3	1	0	0	0	2	1	0	2	4	-1
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	0.207	0	0	0	0	0	3	1	2	-3	2
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	0.188	0	1	0	-1	2	-1	2	3	0	-2
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	0.161	0	0	3	0	-2	-1	-1	1	1	1
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	0.052	0	1	0	1	-2	-1	0	0	0	1

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0.033	0	1	0	-1	0	0	-3	-1	3	3
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	0.019	0	1	-1	0	0	1	-1	-1	1	0
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	-0.051	0	-2	1	0	0	-2	1	4	1	-1
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-0.346	-1	-1	1	-1	0	-2	-2	-1	-3	1
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-0.413	-1	0	-1	0	-1	-2	-2	0	-1	-3
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-0.461	-1	-1	0	-1	-1	-1	-2	0	-1	-3
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	-0.538	-1	-1	-2	0	0	0	0	-5	-4	0
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-0.727	-1	-2	0	-2	-1	-3	-1	-4	0	0

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-0.747	-2	-1	-1	-3	-3	1	-2	-1	-1	-2
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.858	-2	-3	-2	-3	0	1	-1	1	-4	-2
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-1	-2	-1	-2	-2	-1	-3	-3	-3	-2	-4
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-1.018	-2	-2	-3	-1	-2	-2	-4	-2	0	-2
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-1.13	-3	-3	-3	-4	-1	0	-4	-2	0	2
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	-1.278	-3	-4	-2	-2	-4	-4	1	-2	-3	0
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	-1.385	-3	-5	-3	-2	-5	0	-1	-4	0	0

Num	Statement	Z-score	Q Sort Value	Res. 14	Res. 18	Res. 17	Res. 15	Res. 16	Res. 1	Res. 4	Res. 3	Res. 13
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-1.533	-4	-4	-4	-3	-2	-3	-5	0	0	-3
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-1.644	-4	-2	-4	-5	-4	-5	0	-1	-2	-4
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	-1.914	-5	-3	-5	-4	-3	-4	-3	-3	-5	-5

APPENDIX C: Q-Method Results for Factor 2

Table C.1. Contributing Q Sorts - Relative Weights

Q-Sort	Weight
Respondent 11	4.47
Respondent 22	3.07
Respondent 10	2.93
Respondent 12	2.68
Respondent 6	2.48
Respondent 23	2.37
Respondent 2	1.94
Respondent 7	1.04

Table C.2. Contributing Q Sorts - Correlation Matrix

Q-Sort	Res. 11	Res. 22	Res. 10	Res.12	Res. 6	Res. 23	Res. 2	Res. 7
Respondent 11	**100**	39	62	71	35	31	23	2
Respondent 22	39	**100**	38	15	47	44	35	38
Respondent 10	62	38	**100**	37	29	36	37	10
Respondent 12	71	15	37	**100**	20	21	22	2
Respondent 6	35	47	29	20	**100**	54	43	13
Respondent 23	31	44	36	21	54	**100**	27	35
Respondent 2	23	35	37	22	43	27	**100**	25
Respondent 7	2	38	10	2	13	35	25	**100**

Table C.3. Factor Z-scores, Q sort values, and contributors' raw sort values

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	2.2	5	4	4	3	4	4	3	2	4
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	2.122	4	4	4	2	3	5	2	4	3
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	1.729	4	3	2	3	5	3	2	3	-1
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	1.204	3	3	-2	4	3	0	3	4	-1
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	1.133	3	3	2	2	2	1	1	2	-1
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.04	3	2	0	3	0	2	2	3	2

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	0.886	2	0	0	2	1	2	4	1	5
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	0.854	2	1	3	1	2	-2	5	-1	2
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	0.726	2	1	3	1	-2	2	1	1	4
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	0.626	2	5	0	5	4	-3	-3	-4	-4
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	0.493	1	2	1	-3	2	2	3	-2	0

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	0.482	1	1	3	-1	-1	1	0	3	0
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.397	1	-2	5	0	-1	1	1	2	1
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	0.348	1	-1	2	4	-4	1	2	1	0
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	0.264	1	1	2	0	1	-3	0	0	3
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	0.007	0	2	-1	0	3	0	-2	-3	-3
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-0.009	0	2	-3	1	0	-1	-3	5	-3

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	-0.05	0	-1	1	-2	-2	4	0	0	1
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	-0.176	0	-1	1	1	1	-1	-2	-1	-1
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-0.203	0	0	0	-2	2	1	-2	0	-4
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-0.293	0	0	-1	0	-1	0	-1	-2	2
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	-0.295	0	-1	-2	-1	0	0	4	-2	-2
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-0.297	-1	0	0	0	-1	0	-1	-1	-3
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	-0.304	-1	-4	1	-1	-2	3	1	1	1

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	-0.44	-1	0	-2	-3	0	0	0	0	0
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-0.514	-1	0	-3	2	1	-3	-4	-1	2
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	-0.578	-1	0	0	-1	-2	-2	-1	-1	-2
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	-0.581	-2	-3	0	0	-3	-1	1	2	-2
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	-0.654	-2	1	-2	-2	0	-2	0	-5	0
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-0.75	-2	-2	-4	-1	0	0	-1	0	1
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.828	-2	-2	-1	-3	1	-1	-4	1	0

Num	Statement	Z-score	Q Sort Value	Res. 11	Res. 22	Res. 10	Res. 12	Res. 6	Res. 23	Res. 2	Res. 7
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	-0.851	-3	-3	-1	1	-3	-2	-1	0	0
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	-1.013	-3	-2	-3	0	-4	3	0	-4	-5
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	-1.249	-3	-1	-1	-4	-3	-1	-2	-3	-2
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-1.526	-4	-3	1	-2	-5	-5	-3	-3	3
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-1.699	-4	-4	-5	-4	0	-4	0	-2	1
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-2.201	-5	-5	-4	-5	-1	-4	-5	0	-1

APPENDIX D: Q-Method Results for Factor 3

Table D.1. Contributing Q Sorts – Relative Weights

Q-Sort	Weight
Respondent 8	5.99
Respondent 21	1.67
Respondent 9	1.50
Respondent 19	1.22

Table D.25. Contributing Q Sorts - Correlation Matrix

Q-Sort	Res. 8	Res. 21	Res. 9	Res. 19
Respondent 8	**100**	25	29	5
Respondent 21	25	**100**	-4	20
Respondent 9	29	-4	**100**	17
Respondent 19	5	20	17	**100**

Table D.3. Contributing Q Sorts - Correlation Matrix

Num	Statement	Z-score	Q Sort Value	Res. 8	Res. 21	Res. 9	Res. 19
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	1.893	5	5	0	5	-3
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	1.677	4	4	3	-1	2
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	1.677	4	4	3	-1	2
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	1.16	3	3	0	1	1

Num	Statement	Z-score	Q Sort Value	Res. 8	Res. 21	Res. 9	Res. 19
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	1.128	3	2	0	3	3
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	1.122	3	2	1	1	4
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.079	2	2	2	1	2
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	0.987	2	1	5	3	-1
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	0.855	2	3	0	-1	-1
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	0.752	2	3	-2	0	-1
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	0.737	1	0	3	3	3
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.578	1	2	-1	0	0
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	0.458	1	0	4	1	0

Num	Statement	Z-score	Q Sort Value	Res. 8	Res. 21	Res. 9	Res. 19
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	0.312	1	0	4	-4	4
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	0.287	1	1	2	-2	-1
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0.209	0	1	1	-1	-2
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	0.189	0	1	-1	1	-2
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	0.173	0	1	-5	2	2
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	-0.112	0	-1	1	4	-3
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-0.281	0	0	-3	0	0
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-0.281	0	0	-3	0	0
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	-0.287	0	-1	-2	2	1
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	-0.388	-1	0	0	-3	-2

Num	Statement	Z-score	Q Sort Value	Res. 8	Res. 21	Res. 9	Res. 19
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	-0.474	-1	-1	-4	2	1
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	-0.479	-1	-3	2	0	5
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-0.485	-1	-2	2	0	0
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-0.598	-1	-2	-1	2	0
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	-0.683	-2	-1	1	-2	-4
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-0.796	-2	0	-2	-4	-4
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	-0.834	-2	-2	-1	0	-1
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-0.877	-2	-3	1	-2	3
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	-0.948	-3	-1	-2	-1	-5
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.976	-3	-2	0	-2	-2

Num	Statement	Z-score	Q Sort Value	Res. 8	Res. 21	Res. 9	Res. 19
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	-1.221	-3	-4	-3	4	1
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	-1.353	-4	-3	-1	-3	0
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	-1.901	-4	-4	-4	-3	1
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	-2.303	-5	-5	0	-5	-3

APPENDIX E: Q-Method Cross-Factors Results

Table E.1. Descending Array of Differences Between Fac. 1 and Fac. 2

Statement Number	Statement	Fac. 1	Fac. 2	Difference
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	1.397	-1.249	2.646
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	1.311	-0.581	1.892
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	2.231	0.348	1.883
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	1.54	-0.304	1.844
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	0.767	-1.013	1.78
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-0.346	-1.699	1.353
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	0.742	-0.578	1.32
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	0.207	-0.851	1.058
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	0.984	-0.05	1.034
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-0.747	-1.526	0.779
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	0.019	-0.654	0.673
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-1.644	-2.201	0.557
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	0.188	-0.295	0.483

Statement Number	Statement	Fac. 1	Fac. 2	Difference
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0.033	-0.44	0.473
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.866	0.397	0.469
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	1.23	0.886	0.344
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-0.461	-0.75	0.289
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	0.052	-0.176	0.228
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	0.45	0.264	0.186
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.13	1.04	0.09
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	0.501	0.493	0.008
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.858	-0.828	-0.03
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-0.413	-0.293	-0.12
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	0.316	0.726	-0.41
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-1.13	-0.514	-0.616
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	0.161	0.854	-0.693
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-0.727	-0.009	-0.718
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-1.018	-0.297	-0.721

Statement Number	Statement	Fac. 1	Fac. 2	Difference
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-1	0.007	-1.007
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-1.533	-0.203	-1.33
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	0.3	1.729	-1.429
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	0.619	2.122	-1.503
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	-0.538	1.204	-1.742
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	-1.385	0.482	-1.867
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	-0.051	2.2	-2.251
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	-1.278	1.133	-2.411
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	-1.914	0.626	-2.54

Table E.2 Descending Array of Differences Between Fac. 1 and Fac. 3

Statement Number	Statement	Fac. 1	Fac. 3	Difference
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	0.45	-2.303	2.753
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	0.767	-1.901	2.668
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	0.984	-1.221	2.205
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	0.501	-1.353	1.854

Statement Number	Statement	Fac. 1	Fac. 3	Difference
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	1.397	0.189	1.208
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	2.231	1.122	1.109
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	0.052	-0.948	1
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	0.161	-0.834	0.995
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	0.619	-0.287	0.906
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	0.188	-0.683	0.871
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	0.207	-0.388	0.595
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	0.019	-0.479	0.498
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	-0.051	-0.474	0.423
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	1.54	1.128	0.412
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	1.23	0.855	0.375
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.866	0.578	0.288
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-0.346	-0.598	0.252
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	0.3	0.173	0.127
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.858	-0.976	0.118

Statement Number	Statement	Fac. 1	Fac. 3	Difference
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.13	1.079	0.051
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	0.742	0.752	-0.01
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0.033	0.209	-0.176
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-1	-0.796	-0.204
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-1.13	-0.877	-0.253
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	1.311	1.677	-0.366
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-0.747	-0.281	-0.466
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-0.413	0.312	-0.725
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	-0.538	0.458	-0.996
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-0.727	0.287	-1.014
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-1.533	-0.485	-1.048
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	0.316	1.677	-1.361
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-1.644	-0.281	-1.363
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-0.461	1.16	-1.621
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	-1.914	-0.112	-1.802

Statement Number	Statement	Fac. 1	Fac. 3	Difference
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	-1.385	0.737	-2.122
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	-1.278	0.987	-2.265
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-1.018	1.893	-2.911

Table E.3. Descending Array of Differences Between Fac. 2 and Fac. 3

Statement Number	Statement	Fac. 2	Fac. 3	Difference
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	2.2	-0.474	2.674
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	0.264	-2.303	2.567
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	2.122	-0.287	2.409
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	0.493	-1.353	1.846
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	0.854	-0.834	1.688
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	1.729	0.173	1.556
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	-0.05	-1.221	1.171
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	-1.013	-1.901	0.888
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	0.007	-0.796	0.803
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	-0.176	-0.948	0.772

Statement Number	Statement	Fac. 2	Fac. 3	Difference
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	1.204	0.458	0.746
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	0.626	-0.112	0.738
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	-0.295	-0.683	0.388
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-0.514	-0.877	0.363
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-0.203	-0.485	0.282
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-0.828	-0.976	0.148
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	1.133	0.987	0.146
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	0.886	0.855	0.031
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	1.04	1.079	-0.039
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	-0.654	-0.479	-0.175
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	0.397	0.578	-0.181
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	0.482	0.737	-0.255
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-0.009	0.287	-0.296
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	-0.851	-0.388	-0.463
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-0.293	0.312	-0.605

Statement Number	Statement	Fac. 2	Fac. 3	Difference
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	-0.44	0.209	-0.649
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	0.348	1.122	-0.774
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	0.726	1.677	-0.951
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-1.699	-0.598	-1.101
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-1.526	-0.281	-1.245
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	-0.578	0.752	-1.33
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	-0.304	1.128	-1.432
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	-1.249	0.189	-1.438
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-0.75	1.16	-1.91
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-2.201	-0.281	-1.92
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-0.297	1.893	-2.19
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	-0.581	1.677	-2.258

Table E.4. Distinguishing Statements for Factor 1 ($p<0.05$; Asterisk (*) Indicates Significance at $p<0.01$) Both the Factor Q-Sort Value and the Z-Score (Z-SCR) are Shown

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	14	5	**2.23***	1	0.348	3	1.122
Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	16	4	**1.4***	-3	-1.249	0	0.189
Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	30	2	**0.98***	0	-0.05	-3	-1.221
Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	10	2	**0.77***	-3	-1.013	-4	-1.901
Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	5	1	**0.62***	4	2.122	0	-0.287
Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	19	0	0.21	-3	-0.851	-1	-0.388
Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	34	0	0.19	0	-0.295	-2	-0.683
Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	11	0	**0.16***	2	0.854	-2	-0.834
Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	7	-1	**-0.54***	3	1.204	1	0.458
Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	2	-1	**-0.73***	0	-0.009	1	0.287

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	36	-2	**-1.02***	-1	-0.297	5	1.893
Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	3	-3	**-1.28***	3	1.133	2	0.987
Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	1	-3	**-1.39***	1	0.482	1	0.737
Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	28	-4	**-1.53***	0	-0.203	-1	-0.485
Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	15	-4	-1.64	-5	-2.201	0	-0.281
Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	27	-5	**-1.91***	2	0.626	0	-0.112

Table E.5. Distinguishing Statements for Factor 2 ($p<0.05$; Asterisk (*) Indicates Significance at $p<0.01$) Both the Factor Q-Sort Value and the Z-Score (Z-SCR) are Shown

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	6	0	-0.05	5	**2.2***	-1	-0.474
Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	5	1	0.62	4	**2.12***	0	-0.287
Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	8	1	0.3	4	**1.73***	0	0.173

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	7	-1	-0.54	3	1.2	1	0.458
Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	11	0	0.16	2	**0.85***	-2	-0.834
Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	27	-5	-1.91	2	0.63	0	-0.112
Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	14	5	2.23	1	**0.35***	3	1.122
Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	37	-2	-1	0	**0.01***	-2	-0.796
Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	30	2	0.98	0	**-0.05***	-3	-1.221
Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	20	4	1.54	-1	**-0.3***	3	1.128
Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	36	-2	-1.02	-1	**-0.3***	5	1.893
Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	26	0	0.03	-1	-0.44	0	0.209
Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	29	2	0.74	-1	**-0.58***	2	0.752
Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	33	3	1.31	-2	**-0.58***	4	1.677

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	10	2	0.77	-3	**-1.01***	-4	-1.901
Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	16	4	1.4	-3	**-1.25***	0	0.189
Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	4	-2	-0.75	-4	**-1.53***	0	-0.281
Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	17	-1	-0.35	-4	**-1.7***	-1	-0.598
Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	15	-4	-1.64	-5	-2.2	0	-0.281

Table E.6. Distinguishing Statements for Factor 3 ($p<0.05$; Asterisk (*) Indicates Significance at $p<0.01$) Both the Factor Q-Sort Value and the Z-Score (Z-SCR) are Shown

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	36	-2	-1.02	-1	-0.3	5	**1.89***
Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	21	1	0.32	2	0.73	4	**1.68***
Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	32	-1	-0.46	-2	-0.75	3	**1.16***
Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	14	5	2.23	1	0.35	3	**1.12***
Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	7	-1	-0.54	3	1.2	1	0.46
Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	35	-1	-0.41	0	-0.29	1	0.31

		Factor 1		Factor 2		Factor 3	
Statement	**Nm**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**	**Q-SV**	**Z-score**
Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	16	4	1.4	-3	-1.25	0	**0.19***
Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	27	-5	-1.91	2	0.63	0	-0.11
Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	15	-4	-1.64	-5	-2.2	0	**-0.28***
Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	5	1	0.62	4	2.12	0	**-0.29***
Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	11	0	0.16	2	0.85	-2	**-0.83***
Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	31	0	0.05	0	-0.18	-3	**-0.95***
Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	30	2	0.98	0	-0.05	-3	**-1.22***
Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	9	1	0.5	1	0.49	-4	**-1.35***
Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	10	2	0.77	-3	-1.01	-4	**-1.9***
Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	24	1	0.45	1	0.26	-5	**-2.3***

Table E.7. Relative Ranking of Statements in Factor 1 - Highest Ranked Statements

Nm	Statements	Factor 1	Con/Dist	Factor 2	Factor 3
14	Havzadaki su sıkıntıları diğer havzalardan su getirilerek değil devletin tarım ve su politikalarını değiştirmesiyle çözülebilir.	5	D*	1	3

Table E.8. Positive Statements Ranked Higher in Factor 1 Array than in Other Factor Arrays

Nm	Statements	Factor 1	Con/Dist	Factor 2	Factor 3
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	4		-1	3
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	4	D*	-3	0
22	Daha verimli sulama sistemlerine geçiş yatırımları yapılsa dahi ana soruna ilişkin temel bir politika değişikliği olmadığı sürece gidişatın tersine dönmesi zor görünüyor.	3	C*	2	2
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	3	C*	3	2
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	2	D*	0	-3
18	Konya Kapalı Havzasının su döngüsü yoğun sulamalı tarımsal üretim yüzünden bozuldu.	2	C	1	1
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	2	D*	-3	-4
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	2		-1	2
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	1		1	-4
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	1		1	-5
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	0	D	-3	-1
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	0	D	0	-2
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	0		0	-3
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0	C	-1	0
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	0		-2	-1

Table E.9. Negative Statements Ranked Lower in Factor 1 Array than in Other Factor Arrays

Nm	Statements	Factor 1	Con/Dist	Factor 2	Factor 3
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	-1	C	0	1
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	-1	D*	3	1
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	-1	D*	0	1
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-2		0	-2
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	-2	D*	-1	5
12	Su sorunlarının altyapı ve teknolojik yatırımlarla çözülebileceğine inanıyorum.	-3		-1	-2
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	-3	D*	3	2
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	-3	D*	1	1
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	-4	D*	0	-1

Table E.10. Lowest Ranked Statements in Factor 1

Nm	Statements	Factor 1	Con/Dist	Factor 2	Factor 3
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	-5	D*	2	0

Table E.11. Relative Ranking of Statements in Factor 2 - Highest Ranked Statements

Nm	Statements	Factor 2	Con/Dist	Factor 1	Factor 3
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	5	D*	0	-1

Table E.12. Positive Statements Ranked Higher in Factor 2 Array than in Other Factor Arrays

Nm	Statements	Factor 2	Con/Dist	Factor 1	Factor 3
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	4	D*	1	0
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	4	D*	1	0
7	Beyşehir Gölü kot seviyesini yükseltme kararı çiftçileri mağdur eden bir hamleydi.	3	D	-1	1
3	Konya Kapalı Havzasının su döngüsü iklim değişikliği sebebiyle yağışların azalması yüzünden bozuldu.	3		-3	2
13	Çiftçiler sulama suyu yetersizliği nedeniyle ürünlerini kaybetmektense kaçak sulamaya yöneldikleri için su kaynakları üzerinde yoğun baskı oluşuyor.	3	C*	3	2
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	2	D*	0	-2
27	Alternatif su kaynakları bulunur (örn. kızılırmak) ve havzaya aktarılırsa insanların çevre üzerindeki baskısı azalır.	2	D	-5	0
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	1		1	-4
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	1		-3	1
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	1		1	-5
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	0	D*	-2	-2
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	0		0	-3
28	Havzada yapılan büyük mühendislik projelerini Konya'daki su sıkıntısının çözülmesi için fazlasıyla gerekli buluyorum.	0		-4	-1
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	0		0	-2

Table E.13. Negative Statements Ranked Lower in Factor 2 Array than in Other Factor Arrays

Nm	Statements	Factor 2	Con/Dist	Factor 1	Factor 3
20	Yoğun sulamalı tarımsal üretim (sulama, gübre, ilaçlama vb.) çevre üzerinde büyük bir baskı oluşturuyor.	-1	D*	4	3
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	-1	D	0	0

Nm	Statements	Factor 2	Con/Dist	Factor 1	Factor 3
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	-1	D*	2	2
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	-2	D*	3	4
25	Suyun sürdürülebilir bir şekilde kullanılması için gelişmiş teknolojilerin daha fazla kullanılması gerekli.	-2		0	-1
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	-2		-1	3
19	Barajlar özellikle kar yağışlarının azalmasına sebep olan mikroiklim değişikliklerine yol açtı.	-3		0	-1
16	Hükümet, suyu korumak yerine tarımsal üretim ve ekonomik büyüme için kullanmayı seçti.	-3	D*	4	0
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	-4	D*	-2	0
17	Çiftçilerin sulama teknik bilgi ve donanımları yeterli değil.	-4	D*	-1	-1

Table E.14. Lowest Ranked Statements in Factor 2

Nm	Statements	Factor 2	Con/Dist	Factor 1	Factor 3
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	-5	D	-4	0

Table E.15. Relative Ranking of Statements in Factor 3 - Highest Ranked Statements

Nm	Statements	Factor 3	Con/Dist	Factor 1	Factor 2
36	Beyşehir Gölü'nde su seviyesinin düşmesi iklim değişikliği sebebiyle yağışların azalması kaynaklıdır.	5	D*	-2	-1

Table E.16. Positive Statements Ranked Higher in Factor 3 Array than in Other Factor Arrays

Nm	Statements	Factor 3	Con/Dist	Factor 1	Factor 2
21	Çiftçiler ekonomik çıkarlarını düşünerek fazla sulama gerektiren ürün ürettikleri için havzada su sıkıntıları artıyor.	4	D*	1	2
33	Konya Kapalı Havzasında havza şartlarına uygun olmayan tarımsal üretim yapılıyor.	4		3	-2
32	Havzada tarımsal üretim yapan çiftçilerde çevre bilinci eksikliği var.	3	D*	-1	-2
29	Havzada her akan suyun önü tarımsal sulamada kullanılmak üzere kapatıldığı için havzadaki su kaynakları (Beyşehir Gölü, Meke Gölü, Tuz Gölü vb.) kuruyor.	2		2	-1

Nm	Statements	Factor 3	Con/Dist	Factor 1	Factor 2
1	Havzadaki su sorunlarının sebebi havzanın doğal olarak az yağış alan kurak bir iklime sahip olmasıdır.	1		-3	1
35	Yüzey suyunun ücreti ucuz olduğu için çiftçiler gereğinden fazla yüzey suyu kullanıyorlar.	1	D	-1	0
2	Çiftçiler bilinçlendi, araştırma yapıp gelişmeleri yakından takip ediyor ve planlarını buna göre yapıyorlar.	1		-1	0
26	Konya Kapalı Havzasındaki atık su arıtımı kapasite yetersizliği nedeniyle Beyşehir Gölü de dahil olmak üzere havzanın su kaynakları kirleniyor.	0	C	0	-1
4	Çiftçiler değişime açık olmadığı için daha sürdürülebilir sulama pratiklerine geçmeye ikna edilemiyorlar.	0		-2	-4
15	Havzada hayata geçirilen mühendislik projeleriyle gurur duyuyorum.	0	D*	-4	-5

Table E.17. Negative Statements Ranked Lower in Factor 3 Array than in Other Factor Arrays

Nm	Statements	Factor 3	Con/Dist	Factor 1	Factor 2
8	Havzada tarımsal üretim yapan çiftçiler ülke ekonomisi için büyük birer aktördür.	0		1	4
5	Konya Kapalı Havzasının verimli toprakları olması havzayı ülkenin tarımsal üretimi ve gıda güvenliği için önemli bir konuma getiriyor.	0	D*	1	4
6	Üretim potansiyeli çok yüksek olan Konya Kapalı Havzasının verimli topraklarının ülkenin çıkarları için değerlendirilmesi gerekir.	-1		0	5
34	Havzadaki yeraltı ve yüzey sularında yaşanan sıkıntılar çiftçilerden değil yanlış tarımsal politikalardan kaynaklıdır.	-2		0	0
37	Havzada tarımsal üretim yapan çiftçiler ülkeyi doyurduklarından ihtiyaç duydukları su arzı çiftçiler için bir haktır.	-2		-2	0
11	Su altyapıları planlanırken bölgenin tarımsal kültürü ve çiftçi davranışı dikkate alınmadığı için yanlış veya verimsiz kullanımla sonuçlanıyor	-2	D*	0	2
31	Merkezi yönetim sahadan (havzanın gerçekliğinden, olan bitenden) kopuk bir halde.	-3	D*	0	0
23	Tarımsal sulamada verimsizlik sıkıntısı sulama altyapısında ciddi iyileştirmelerle çözülür.	-3	C*	-2	-2
30	Su yönetiminde çokbaşlılık koordinasyon eksikliği yarattığından havzadaki su yönetimini negatif etkiliyor.	-3	D*	2	0
9	Modern sulama teknikleri (toprak altı sulama vb.) maliyetli olduğundan yaygınlaştırılması için daha fazla devlet desteği gereklidir.	-4	D*	1	1
10	Beyşehir Gölü'nün korunması için yerel halkın da gölün yönetiminde söz sahibi olması gerekiyor.	-4	D*	2	-3

Table E.186. Lowest Ranked Statements in Factor 3

Lowest Ranked Statements					
Nm	**Statements**	**Factor 3**	**Con/Dist**	**Factor 1**	**Factor 2**
24	Havzadaki izleme ve değerlendirme eksikliğinden ötürü çiftçiler tarafından ne kadar su kullanıldığı tespit edilemiyor.	-5	D*	1	1