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Water Politics and Political Culture

Turkey's compatibility with the European Union

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This book is based on the Thesis submitted in fulfillment of the requirements for the degree of Doctor of Philosophy (Politics) at the University of Otago, New Zealand, October 2012.

ISBN 978-3-319-21478-8 ISBN 978-3-319-21479-5 (eBook)
DOI 10.1007/978-3-319-21479-5

Library of Congress Control Number: 2015952779

Springer Cham Heidelberg New York Dordrecht London

Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media (www.springer.com)

Preface

Turkey's willingness to enter the EU brought forward a set of issues regarding harmonisation that needed urgent solutions before such joining could take place. Harmonisation work requires rigorous agreement between Turkey and the EU around how Turkish law and institutions are going to function in harmony with the European statutory and institutional setting. One of the most important areas of work is fresh water management. If Turkey wants to join the EU they are required to apply the European Water Framework Directive (EU WFD), the community's water policy for member countries. This means that Turkey is required to adopt the fundamental principles of the Directive and also has to undertake a series of actions to change its water governance system into an Integrated Water Resources Management (IWRM) framework. IWRM is promoted as the core principle of how freshwater should be managed under the WFD.

IWRM offers a systemic approach to water management where citizen participation and conciliation of vested interests among the users of the river basin should ideally produce optimum results for ecosystems and socio-economic values. In this sense, IWRM supports 'processes' that lead to democratic water decision-making. However, there is a practical difficulty with the implementation of IWRM. This book explores how the concept becomes abstract and theoretical where political cultures of water bureaucracies impede vigorous discussion around the issues of water management.

This book looks into this phenomenon in the Turkish case and argues that Turkey is a good example of where IWRM is difficult to implement due to the social constructions embedded within how Turkish water bureaucracy functions. Turkish water institutions are set around a paternalistic system. Water policy is being formulated within a technical-economic engineering dominated setting where other points of view can be pushed out of the way in pursuit of political agendas. The closed knowledge system of orthodox engineering is useful politically, and a monopoly on this knowledge by particular groups affords them a lot of power. Paternalistic transactions in water management allow these groups to silence potentially dissenting

views of how to go about democratic water management. A comparison with Spain shows that similar political culture exists despite the Spanish government's attempt to implement the EU's Water Framework Directive.

Wellington, New Zealand Onur Oktem

Contents

Abbreviations

AKP	Adalet ve Kalkinma Partisi (Justice and Development Party)
BOP	Bank of Provinces
BOR	Bureau of Reclamation (United States)
CEO	Chief Executive Officer
DP	Democratic Party
EC	European Commission
EEC	European Economic Community
EIA	Environmental Impact Assessment
EPRSDA	Electrical Power Resources survey and Development Administration
EU	European Union
GAP	Guneydogu Anadolu Projesi (Southeastern Anatolia Project)
GDP	Gross Domestic Product
GDRS	General Directorate of Rural Services
GWP	Global Water Partnership
HABITAT	United Nations Human Settlements Programme
IBWTs	Inter-basin water transfers
ISKI	Istanbul Su ve Kanalizasyon Idaresi (Istanbul Water and Sewage Administration)
IWRM	Integrated Water Resources Management
MARA	Ministry of Agriculture and Rural Affairs (Turkey)
MFA	Ministry of Foreign Affairs (Turkey)
MOE	Ministry of Environment (Spain)
MOEF	Ministry of Environment and Forestry (Turkey)
MOEU	Ministry of Environment and Urbanisation (Turkey)
NGO	Non-governmental organisation
NHPs	National Hydrologic Plans (Spain)
ORSAM	Ortadogu Stratejik Arastirmalar Merkezi
PKK	Partiya Karkaren Kurdistane
PM	Prime Minister

PP	Partido Popular (People's Party)
PoMs	Programme of Measures
PROGRAMA AGUA	Actuaciones para la Gestion y la Utilizacion del Agua (Actions for the Management and the Use of Water)
PSOE	Partido Socialista Obrero Espanol (Spanish Social Workers' Party)
RBDs	River Basin Districts
RBMPs	River Basin Management Plans
SHW	State Hydraulic Works
SPO	State Planning Organisation
SUEN	Turkiye Su Enstitusu
TEMA	Turkiye Erozyonla Mucadele, Agaclandirma ve Dogal Varliklari Koruma Vakfi (The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats)
TGNA	Turkish Grand National Assembly
TMMOB	Turk Muhendis ve Mimar Odalari Birligi
TUSIAD	Turk Sanayicileri ve Isadamlari Dernegi
TVA	Tennessee Valley Authority
UN	United Nations
UNDP	United Nations Development Programme
US	United States
USIAD	Ulusal Sanayici ve Isadamlari Dernegi
WFD	Water Framework Directive
WWF	World Wildlife Fund

Chapter 1
Introduction

The man in the street does not ordinarily trouble himself about what is "real" to him about what he "knows" unless he is stopped short by some sort of problem. He takes his "reality" and his "knowledge" for granted…
…The philosopher, on the other hand, is professionally obligated to take nothing for granted, and to obtain maximal clarity as to the ultimate status of what the man in the street believes to be "reality" and "knowledge".

Berger and Luckmann (1967, p. 2), The Social Construction of Reality

'State regimen is decayed from A to Z; it needs to be renewed'

Refik Saydam, 4th Prime Minister of Turkey (1939–1942)

1.1 Subject

Of all the issues faced in Turkish water management, none are as important and problematic as the issue of complying with European Union (EU) accession criteria. Not only is water socially, economically and environmentally important; its management is a useful prism through which to view the accession process as a whole. It showcases the complementarities and divergences between Turkish and EU bureaucratic constructs and value systems.

This book analyses how Turkish freshwater management is socially constructed as both an engineering discourse and a paternalistic bureaucratic transaction. Such a construction stands in stark contrast to the water management discourse of the European Water Framework Directive (WFD, the Union's common water policy). The underlying theme of the EU-WFD is the water management concept of Integrated Water Resources Management (IWRM). The integration of water management aims to develop a sustainable water policy that combines the social, cultural, political, and ecological dimensions within a physical river catchment.

The water management knowledge held by the Turkish bureaucracy and that held by the EU is very different as these knowledge sets are socially constructed in different political cultural settings. The different societies, Turkey and those that

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_1

make up Europe, each use a different set of values, traditions and historical experiences to frame how water management should occur. When the two come together in the EU accession process, each regards the other's water management through their own socially constructed discourses on how things should be done. This book aims to understand these two separate knowledge sets of water management and their reflection in Turkish and European bureaucratic contexts.

1.2 Purpose and Research Questions

The main purpose of this book is to find out whether Turkey can implement IWRM as a water policy framework. IWRM involves combining the different functions of water management at a physical catchment scale; this includes the sum of its socio-economic, cultural, and ecological characteristics. However, Turkey's understanding of water management is one-dimensional, engineering-focused, and a bureaucratic decision-making process. This is not viable for managing the diverse socio-economic, cultural and ecological qualities/assets that river basins have and ultimately what IWRM strives to achieve. In this book, I pursue answers to the questions below:

- Why is water management a social construction?
- What are the factors that make IWRM a social construction?
- What are the factors behind dysfunctional water policy-making in Turkey?
- How does Turkish political culture affect Turkish water bureaucracy?
- Can Turkey implement IWRM in the EU accession process?

1.3 Background

In July 1959, Turkey began a process to join the European Economic Community (EEC). Turks viewed this as an essential step in their desire to become a modern, prosperous Western country. The EEC and later the EU, however, required that Turkey become a modern, prosperous Western country before joining, especially as Turkey was undemocratic and poor with a large Muslim population (Kubicek 2004; Onis 2000; Tocci 2005).

Today, in 2012, the situation is still largely the same, something akin to a donkey's tail as Turks say: it does not get shorter or longer despite the changes that have swept through the European/Turkish region. Changes in technology have brought Turkey and Turks closer and into greater contact with Europe and Europeans. One of the most notable changes is the expansion of the EU, which by the early 1980s had brought the Union to Turkey's borders. Many in Europe still think that Turkey is not yet 'ready enough' and is too 'troublesomely located' in Asia Minor to join their Community. Some also think that the main obstacle to Turkey's membership is not the reasons that European officials usually cite such as democracy, human rights

but Turkey's un-Europeanness and alien culture (Kutuk 2006; Muftuler-Bac 2000b). Europeanness is understood in two major ways: common intellectual heritage, religion and ethnicity on one hand, and sharing of common values such as democratic principles on the other (Muftuler-Bac 2000a). Yet Turkey continues to knock on the EU's door, devoting much energy towards becoming part of the club (Glyptis 2005). This harmonization/Europeanization of Turkey as a part of the membership process continues to grow as a controversial topic domestically as there seems to be little reward to Turkey for its efforts. The controversy is not merely about the standardization of cucumbers and their punnets, nor is it about a Turk sipping their coffee in Prague; it is about whether or not the cucumber growing/coffee sipping Turk is better able to partake in civil society and express their opinions freely. After all, the Turkish desire to join the EU is based not on having well-proportioned vegetables, but rather on increasing their ability to shape their own destiny. Some have argued that this change has in fact occurred in Turkey since it was accepted as a candidate country in 1999 in Helsinki and started accession negotiations in 2005. The EU had been regarded as an important anchor for promoting democracy in Turkey throughout the 1980s and 1990s (Muftuler-Bac 2000a). The change has not only occurred because Turkey so wanted to fulfil the EU's criteria but also because some things changed in Turkish domestic politics (Tocci 2005). After all, it has been widely accepted among scholars of Turkey that the accession process proved to be a key catalyst to Turkey's democratisation. However, did Turkish state and Turkish people internalise these democratisation attempts? The question is hard to answer simply because Turkish political culture continues to impede the state, society, and civic rights from internalising the democratic norms that the EU essentially requires and understands from Europeanness.

To many Turks, reading about the accession process in the news every day, the situation seems more Sisyphean. The average Turk has become de-motivated to join the EU and the issue is no longer a vote-winner in the national political conversation. Nevertheless, the EU bid demonstrates a two-way problematic: was it that Turkey fell short of meeting the demands of the EU? Or did the EU have its own financial and political problems and disagreements among member states over Turkey? Perhaps it did not want, or was unable, to handle an issue as big as Turkey. The EU has diverted Turkey's attention to the thorny foreign policy issue of Cyprus, allowing the EU to avoid addressing the problems of supranational governance amongst nations that are technically located 'in Europe' but not 'European'. This can be seen in the divergent financial and political fortunes between the European core and the debt-ridden periphery. In the end, the EU evaded improving its relations with Turkey further, and the more it did this, the more Turkish politicians felt compelled to achieve accession (Deringil 2007).[1]

[1] Regarding the deep roots of this relationship See: Deringil (2007). He describes Ottoman-Europe relations perfectly by saying: *In Ottoman Turkey's relations with Europe, therefore, we find the strange combination of a sense of being inevitably yoked together co-existing with a feeling of rejection. The feeling on both sides has been a sense of being inextricably bound together, even if this situation was not to the taste of either party. The whole Turkish relationship with Europe there-*

1.3.1 'My Reality' Versus 'Your Reality'

It is this seemingly irresolvable problematic that acted as the catalyst for the central ideas of this book. This book will attempt to re-explain this relationship and challenge its core arguments by analyzing the two-way problematic from a social constructionist perspective. Central to this is the idea that we look at the historical and social 'knowledge' that creates the different European and Turkish political cultures and their water bureaucracies. The book demonstrates how this empirical variety of knowledge becomes socially established as 'reality'. For instance, the governance similarities with Southern Europe show that Europe contains a bit of Turkey already, but in the greater scheme of accepting Turkey into the Club, pretends that it does not. Similarly, Turkey desires to be a European country; however, the Turkish state continues to have a paternal relationship with its citizens, telling them 'what to be' and 'how to be'.

This mindset has led to natural resources being developed in order to solidify the state elites' position rather than benefit ordinary citizens. As such, water management has mostly been a vote-buying exercise in Turkey and has been used as part of populist political campaigns, for instance, using it in regional development. Building dams, irrigation channels and floodgates has been and still is full of prestige for Turkish politicians and their governments alike. However, as part of this prestige building, water projects are expensive, large scale and serve political ends. Current water policy making in Turkey is heavily technocratic and pre-occupied with an engineering, technical-economical feasibility perspective, even while this perspective has long been questioned around the world. Communicating widely about the implications of these policies could invite further debate and open channels for alternative paradigms. This might encourage Turkish society to push further for a greater understanding of how water policy operates and the engineers' role in the execution of water policy. Water bureaucracy's actions need to be communicated to the wider society. This requires a more democratic political culture in the area of water management where water policy is debated and exposed to stakeholder discussion, which is currently not the case in the Turkish system.

The Central and Northern European countries of the Union try to embrace the different political cultures and their discourses that are found in Southern and Eastern European societies, at the periphery of the EU. In comparison to Northern peers, Southern European countries have lower GDP per capita, less transparent governments, more traditional public administration systems, have more restrictions on free speech, and are only recently acquainted with liberal economics (Dimitrova 2011). The manner in which Europe constructs itself, including peripheral European political cultures, allows them to be part of the Union without becoming Germanic, French or Dutch. However, does the European project rely on these differences or

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fore is evaluated in terms of 'winning' and 'losing': to win is to achieve recognition; to lose is fail to do so. In this attitude we can discern two strands, one a feeling of being spurned, rejected, a feeling that reflects hurt pride, the other a feeling of wanting to belong which is made all the more acute by this very same rejection.

does it have an integrity problem? The EU tries to be a melting pot for this cultural spirit and these multiple discourses. This is not a matter of policy-making towards a prosperous Romania, or debt-free Greece; it is rather about a common culture representing 'Europeanness', which eventually mobilizes Europeans to stick together. This has not been achieved and onlookers may be missing the point. The EU's 'Europe' is not, for instance, a Romanic or Hungarian worldview despite an expansion that has brought in a huge amount of diversity and culture. Europe is a continent that has many languages and cultures. The EU represents shared values, selectively building on Europe's Republican and reformation legacies, despite the fact that these 'shared values' are hard to pin down (Glyptis 2005).

For Turkey, Europeanism comes with a deep passion for reaching the European (Western) standards of living and becoming a developed country (Onis 2000). However, Turkey has fallen short of these standards. Not only that, but for some, the core of the debate 'why should Turkey join the EU?' was couched in very abstract and broad geopolitical-historical terms and became associated with a superficial discussion 'becoming part of Europe or becoming European'; meaning that nobody in Turkey properly debated what the EU membership entailed (Avci 2003). Europe, on the other hand, sees Turkey's economic potential within the European project but does not want to deal with the problems that accession will bring. There is a need to topple these mindsets and restructure the political discourses and social constructions that the EU and Turkey hold, then it might be possible to improve their stalling relationship. This could introduce an environment in which Turkey and the EU establish a better mutual understanding.

This book explains the social construction of water management in Turkey and does so by explaining the phenomenon from the EU accession perspective. The EU discourse on water policy making has been evolved and finally approved at the common EU level as the Water Framework Directive. However, as briefly explained above, the social constructions of the Turkish system require significant adjustment to accommodate the (Northern) European way of seeing things if Turkey becomes part of the union. This has catalyzed a discussion regarding alternative discourses to be introduced into the water policy-making system in Turkey. The EU system for water management caused distress at the Turkish level as it contradicts the technical perspective. It requires serious thinking about how to re-organize the foundations of water management. This book argues that this effort will be difficult based on the social constructed qualities of Turkish political culture for water policy but also because the IWRM and its European view of water management is itself constructed in a certain way. Europe has a diversity of political cultures that have similar bureaucratic structures in water management. Northern and Southern European water bureaucracies operate on a range of political cultures and these imply deep divisions in the way they perceive water management and the IWRM. The water management mindset of the Turkish water bureaucracy structure their perceptions of IWRM and current water policy-making in Turkey. These perceptions will affect the way Turkey implements the EU's IWRM policy (WFD). I discuss the fact that Turkey cannot implement IWRM without larger scale change in its political culture.

1.3.2 Challenging the Turks' and Europeans' Knowledge of Each Other

Extending the above, this book will strive to address current incorrect beliefs about the EU, Turkey, and the journey of the accession process. The book will argue that if Turkey understood its own political culture well enough and realized how it looks from the outside, Turkey would view the EU as a lesson in inspiration rather than an obsession for belonging. By the same token, the EU is diverse and there are imperfections within this Union. There is much to govern and too much divergence to be managed. There is a Northern Europe-centric tendency due to the voting regime and financial inequality that sees the powerful states (primarily Germany, France and Britain) dominating the decision-making processes and defining 'Europe' in their own terms.

While the EU project is still evolving with differing results, it may be firmly argued that it is not the perfect panacea to all ills observed running a country in the twenty-first century. One problem of particular salience is that there is a relative lack of attention to the fact that the diversity of the EU is threaded through by socially constructed political cultures. These constructions affect the general state of affairs between Turkey and the EU. This, I further argue, has not been analyzed in a way that resonates with Turkey. Turkey requires freedom from the obsessive learn-by-heart behaviour of the EU harmonization process (Kubicek 2004).[2] The current bureaucratic context and governance processes are not helping Turkey to prosper, to become more democratic or to truly critique the effectiveness of its actions. The EU expects Turkey to choose society over state, difference over homogeneity, military over civilian and democracy over republicanism and to shake its father state syndrome off and all its embedded components (Kubicek 2004).

There needs to be a careful assessment of what is actually needed to make Turkey a truly developed country. The EU accession process is an excellent opportunity for Turkey to fundamentally transform its political cultures and philosophies. However, the current EU accession process has become a list of prescriptive criteria and this has led to Turkish policy makers imitating Europe rather than learning from it. This imitation has been the core of Turkey's relationship with the EU since the 1960s.

The purpose of this book is to propose how to do that: to learn from, without necessarily joining, the European Union. The overarching argument of this research is that the lack of progress in Turkey's EU accession is due to the socio-cultural constructs held by Turks and Europeans. Then, I intend to demonstrate how these constructs are incorrectly understood and explained. This has led to one country

[2] Kubicek (2004) refers to an opinion piece that Cuneyt Ulsever, a Turkish journalist, wrote regarding this learnt-by-heart behavior: *One Turkish commentator summed the situation neatly, arguing in 2000 that Turks are following the dictates of the EU like students doing their homework only because the teacher told them to do so, not because they recognize the intrinsic value of the work itself. Indeed, the fact that in 2001 thirty-four constitutional amendments were pushed through so quickly and with so little debate may lead to one worry that the Turks are simply ticking off the boxes and doing little to internalize the norms or put real domestic authorship behind them.*

waiting for almost 50 years to be part of something that is not what it appears to be. My intention is not to turn the analysis into an Us/Them partition but I am genuinely interested in demonstrating what makes Us/Them what We/They are.

1.4 Arguments and Assumptions

The main argument of this book is that Turkey finds it very difficult to implement IWRM. The reasons behind this argument are threefold.

Firstly, IWRM is socially constructed. IWRM is appealing theoretically and is an ideal proposition for managing water at the basin scale but when applied in practice in a country, it is shaped by the socio-cultural and geopolitical circumstances of that country. IWRM knowledge is a reproduced knowledge. Simply put, IWRM is what countries make of it and usually has to be interpreted in a specific socio-economic, political, and cultural context. If Turkey wants to implement IWRM, it will have to be interpreted by 'Turkish-made' water bureaucracy in an environment of 'Turkish-style civil democracy' and above all in a country that has a diverse geography and has unique physical conditions. There is not a generic IWRM knowledge that applies uniformly to all cases and countries and integration is a relative concept due to socially constructed components of water governance. The primary hypothesis of this book, then, is that IWRM is impracticable; it is theoretically ideal but practically unsound.

Secondly, Turkey's political culture has an overriding effect on how water bureaucracy operates. The current social constructs, namely the engineer-driven water policy-making, constrain the future of water management in Turkey. This culture has proved dysfunctional in producing equitable water policies. Turkey's political culture has implications for its bureaucratic process. This originated in the bureaucracy of the Ottoman era and has spilled over into the new Republic. Each historical period brings about a transformed political culture that is shaped by various political and socio-economic factors. Water bureaucracy in Turkey suffers from dysfunctional policies due to these past social constructions. It may take some time to correct these constructions although they fit perfectly with the status quo that is framed around the discourse of no policy is the policy.

This has led to water being mismanaged in Turkey, which means that water is not managed but 'administered' with ad-hoc transactions. The root of the mismanagement question is that public input is restricted because of the engineering discourse. The political culture of Turkish water bureaucracy reduces the role of civil society in formulating national water policy. The current interaction between Turkish society and water bureaucracy is a one-way road where laymen have to know water policy and management through the lens of engineering discourse. Thus, Turkish civil society has little ability to influence what comes out of the bureaucratic end of decision-making. Water allocation and use are usually shaped in the absence of public participation. Moreover, participation is considered costly and unnecessary as every time that the state builds a dam the bureaucracy regards this as being a favour to citizens.

Thirdly, the EU is not living up to its own social constructions. States in the EU itself are not implementing IWRM because there is no standard way that IWRM is implemented. This is rather obvious in various water management systems in continental Europe. IWRM interpretations appear to equal the number of member states in Europe. The implementation of such a variable concept is difficult and troublesome. IWRM is controversial in the EU context although there is no question that the countries support the core principles and values of IWRM. The EU might not be in a position to promote IWRM recipes to outside states as it is still in the process of defining and analyzing them.

This may be seen in the WFD, which is framed with a Northern European perspective. This perspective brings certain issues, such as water quality, to the forefront of water management. On the other hand, it does not so much take into account the Southern European perspective of water quantity issues and water deficit. It has been 'constructed' with a Northern European bias.

Ultimately, this book argues that the more Turkey recognizes the historical and social legacies around water administration and bureaucracy and focuses on fixing the discursive politics around water, the less pressurized it would feel by the EU accession process. The problems of Turkish water bureaucracy have not been adequately reflected on in the past where historical and social conventions of a heavily technical, engineering dominant and paternalistic bureaucratic culture established a problematic and highly political water administration. Turkish water bureaucracy and governments need to understand this political culture in order to comprehend why things are the way they are and why they feel pressurized by the EU's proposals.

Equally, the EU does not always choose the best policy option, nor does it always implement its options in a best possible manner. Therefore, while Turkey needs to review its own structures of water administration in the context of its political culture, the EU must also look critically at the political cultures of its own water administrations, particularly the varying attitudes and capacities to implement the WFD within the EU. The ideals that Europe represents are not 'truths set in stone'; on the contrary they represent multiple interpretations of what Europe is made of. The EU has multiple political cultures and there is not just one correct manner of water management, rather the multiple interpretations of the EU's water policy. Therefore, the accession process should reflect mutual understanding and equity rather than superiority, which is not the case at present.

1.5 Values and Principles

Garrett Hardin argued a concept in the 1960s, which was called the 'tragedy of the commons' (Hardin 1968). According to this concept, if multiple individuals acted rationally and followed their self-interest using a common natural resource, over time they would deplete this limited resource, although none of these individuals would want this to happen in the long run. Since then, scholars who study water management and its social aspects have found out that the concepts of fairness and trust are pivotal to overcome the 'commons' dilemma that Hardin brought to our attention.

This study draws from fairness and trust in the proposition of an 'opportunity of the commons' in water management instead of a 'tragedy'. The planning paradigm around water resources development evolved in the context of technical and economic feasibility. For instance, if a dam were technically possible to be built, then you would look at how to build that dam in the most economic way. Then, you would have the technical-economical feasibility of deciding to build this dam to, say, supply water for an urban settlement. The simple equation of technical and economical feasibility would become the formula for rationality in providing that dam for servicing the public. The one thing missing in this equation is that after a while, technical and economical feasibility replaces social concepts such as fairness and trust that ease the 'tragedy' aspect of water management. Although, fair and trusted water schemes might not be technically and economically optimal, in the long run they might help governments avoid paying costs that were not calculated at the beginning of the so-called technically and economically viable schemes.

Thus, this study is not about supporting technical and economic feasibilities but valuing the role of 'fair water governance' that is trusted by its stakeholders, who can clearly communicate and talk through their interests and 'related costs' at the beginning of a fair process. While fairness stands for hearing the voices of the less powerful, being trusted means that promises and integrity are enabled in a collaborative process of water management. This book prioritizes the role of fairness and trust in better water governance systems.

With both a sensitive subject matter and a focus on culture, which may be argued to be highly subjective, it is important to point out the potential biases in this study.

Firstly, this book is a political science work. Therefore it emphasizes the role of political science and processes in explaining the core issues. It does not focus on economics or natural science-based answers to the questions posed.

Secondly, there is the subjectivity of the cultural background that this book is written against. While my origins give a detailed insight into the Turkish political culture, since I am from that culture, I actually carry some of these constructs. This offers a rich perspective an unbiased person would not be able to offer.

Thirdly, this study takes a middle-ground stance of understanding the relationship between Turkey and the EU. Turkey is uncomfortable with the EU in many areas; however, Turkey can also be diagnosed as almost having an EU obsession. There is a tendency in Turkey to see European behaviour as either inherently beneficial or utterly malign for Turkey. However, this book does not follow any of these positions. This book does not try to prove which position is right or wrong; neither does it support a position of being pro/anti EU. This research seeks opportunities for Turkey to better its water management regardless of the relationship that it has with the EU.

Policy analysts are bound to have their principles in mind while proving their point of why they should be deciding on policy A instead of policy B. These principles represent a certain code of conduct no matter what the policy option is and what direction the policy could take in the future. Simply put, the proposed policy needs to represent what principle it is laid on.

In this regard, this book adopts three principles. First of all, one should work within hydrological boundaries. This requires the management of water within its

physical catchment. It also means our policy transactions on physical water resources are inter-connected with our socio-economic transactions. A misuse in one part of the catchment could have cumulative effects in another part or in the whole system. The policy-making process is better off being guided by the principle of hydrological interconnectivity. This is a well-established principle for twenty first century water policies; policy-makers have more complex (the water profession call these 'wicked' problems) natural resource problems that are difficult to answer.

Secondly, the role of democracy in water resource management is fundamental. Previous water planning experiences have shown that consultation is good but not adequate and, most importantly, that stakeholder participation is not consultation. Policy-makers must actively encourage people to understand nature and its resources and explain what impacts they cause on the resource and what it means for their livelihoods. Water management and development is best conducted through democratic processes where parties with interests come to discuss their point of view and try to come to an agreement of what is possible for everyone around the table to generate a consensus. Even if a consensus has not been reached, there are enormous benefits of having consulted adequately. There is an underlying principle that citizens should be included in the decision-making process so that they can start building constructive relationships and develop trust to equitably and most efficiently share and allocate that resource.

The third principle is that the state should be a provider and take citizen satisfaction into account within the decision-making process rather than establishing an elitist, top-down decision-making discourse in utilizing and managing water resources. The state and bureaucracy should not confuse paternalism with service provision. The dissemination of water knowledge is essential. Instead of a giant elitist water bureaucracy that caters for an engineering mindset, the state's role is to inform society and serve its people with physical, socio-economical and environmental integrity.

1.6 Scope

With such a topic, it is important to demarcate the boundaries of issues to be addressed. This book looks at how water mismanagement in Turkey is connected to a set of social constructs that forms Turkish water bureaucracy. Thinking about these social constructs is not extended to other theoretical contexts where they might specifically play a different role, for instance, the religious social constructs and Islam's role in society, or what that means for Turkish democratic secularism.

The topic can be explained and discussed through a wide variety of disciplines: economics, geography, international relations, and civil engineering are just a few examples. However, this study uses political science, political philosophy, and a sociology perspective. This work does not discuss the subject matter in a cost-benefit, environmental assessment, or a financial feasibility context. There is an intention in this work to take the topic out of that circle as much as possible and

establish a social constructs explanation that applies to the entire book. It essentially attempts to shift the explanations out of the technical and financial cost experience and focus on the cultural and political aspects of organizations by extensive scrutiny of their perceptions.

1.7 Methodology and Sources

This study uses a number of methods to explain its core inquiry and prove its central argument. Due to its main focus, water resources management, it draws on a multi-disciplinary approach and multiple methodologies. In this sense, while it examines aspects of technicalities of water management, it is not a quantitative analysis. On the contrary, it draws heavily on qualitative analysis of content, comparative cases and discourses.

1.7.1 Meta-theory: Social Constructionism

Since the meaning of social construction forms the basis of the discussions for the rest of the book, a number of sources were identified and analysed on the topic of social constructionism; this involved looking at a wide variety of constructionist theory readings and also exploration into the philosophy of knowledge. Only a limited amount of this literature has been used in the book as the extent of the subject is immense and the social construction of reality is used in a number of disciplines including psychology, pedagogy, international relations and many others. For this book, social constructionism is used as a meta-theory as it underpins key arguments made in other chapters. It embraces the arguments in the book as a grand theory in multiple layers: social constructions of water management at national level (Turkish), supra-national level (the EU), and finally at the paradigmatic level (ontology of water management knowledge and IWRM).

1.7.2 Water Management Paradigms: IWRM

Another important part of the theoretical undertaking in this book involves the exploration of the IWRM and the roots of catchment-based water management. A number of IWRM sources that included various definitions of the paradigm as well as a number of case studies being implemented in a number of countries were investigated by the author.

IWRM and river basin planning literature helped in building on the argument that dominant engineering discourses in traditional catchment-based water planning are no longer fit for the purpose. A reasonable amount of evidence has been collected by the author to show that river basin management had been a predominantly

physical and engineering-oriented transaction until the modern paradigm of IWRM emerged. The role of international organizations and non-governmental organizations has been influential in introducing the 'concept of integration' in water management. Their promotion of integration comes out of their own cultural preferences and interests. Hence, whether engineering oriented or deriving from a more integrated approach, water management is a social construct. Qualitative analysis around IWRM's international support gives solid grounding for setting water management as a social construct in the book.

The study conducts a socio-historical analysis and uses a number of resources to explore the distinctive qualities of Turkish political culture. These features help to explain the past social constructions of Turkish bureaucracy. The framework of political culture is relevant to demonstrate why water management is a historically made and socially constructed transaction. The relevance of political culture specifically becomes critical when considering water bureaucracy's functions based on an engineering-focused mindset and something that has been brought about by the paternalistic state. The paternalistic nature of the Turkish state aligns well with the operations of a centralized bureaucracy; in both their function and their philosophy they complement each other.

Fieldwork undertaken in Turkish and Spanish water institutions helped with understanding bureaucratic constructions. This contributed to Chaps. 5 and 6 where the study compares Turkey and Spain and gives specific examples of water management in both countries.

In Turkey, fieldwork involved visiting state departments, academia, and non-governmental institutions mainly in Ankara and Istanbul that have water management portfolios. In Spain, the same strategy was followed in Madrid, Barcelona, and Zaragoza. These observations gave an in-depth understanding from various perspectives on how water is managed in Turkey and Spain. The parties interviewed shared their opinions on the EU and the WFD, which also enriched this book. These interviews and the attitudes of interviewees were good sources of knowledge to identify the discourses and social constructions of Turkish and Spanish water bureaucracy. The interviews helped to discern the future drivers of water policy-making in these countries.

The visit to Spanish institutions not only enabled understanding the social constructions that Spanish society is built on, but also gave an in-depth understanding regarding their perception of European water policy and the WFD. Spanish perceptions shed light on my analysis of the WFD and its focus, as well as what that focus means in different European social constructions. Finally, it clearly showed that not only is IWRM socially constructed, in the EU context IWRM has been socially constructed with a Northern European bias and that the attitudes of Southern European countries clearly differ from those of their Northern peers.

Fieldtrips to the Melen Basin in Northwest Turkey and the Ebro Delta in Northeast Spain were also undertaken to view the physical environment. These visits also allowed a better understanding to be gained of the inter-basin projects that are the subjects of case studies in Chaps. 5 and 6. There was the opportunity to interview field engineers and regional catchment board bureaucrats; this was priceless in terms

of having their opinions on the projects independent from those of central government water bureaucracy, and how they view the project from their perspective.

A key tool used during the fieldwork was the 'schedule questionnaires' (See Appendix). These formed the basis of semi-formal interviews. These interviews were structured around a number of prepared questions; however, not all of these questions were asked to maintain a certain level of spontaneous responses from the interviewees. This provided a good basis for relevant information and at the same time helped me to understand the perceptions of individuals who operate in a given water management context. Furthermore, it enabled an understanding of the bureaucratic discourses by revealing what made individuals think in a certain way and what formed their opinions. This was more important than simply gathering information from them and gave an understanding of how opinions and views could differ from that of central government. Some interviews that I have conducted, in this sense, can be regarded as highly successful whereas in some cases I had negative responses. These negative responses were possibly due to the controversial nature of the topic and included "no comment", antagonism and a number of people giving an overly positive appraisal of the situation. Generally, this was due to water in both countries being regarded as a strategic natural resource and it was therefore a politically sensitive topic for officials to discuss. In most instances, the interviews were recorded and transcribed; in other instances they were noted down, as the subjects did not wish to be recorded, owing to the sensitive nature of the subject matter.

1.8 Structure

The central argument of this book is established in Chaps. 2 and 3 including social constructionism, an explanation of IWRM, a description of how political cultures are socially constructed, an analysis of the WFD, and an outline of the current political culture of Turkish and Spanish water bureaucracy. This is further elaborated on through Chap. 4 (Turkish political culture), Chap. 5 (Turkish Case Study), and Chap. 6 (Spanish political culture).

Chapter 2 explains the main assumptions of social constructionism theory and how these underlying assumptions are used in this book.

Chapter 3 discusses IWRM's basic philosophy of river basin management taking into account both the physical and socio-economic properties of the basin. The second half of this chapter introduces the EU's IWRM policy, the WFD, and questions its success as well as evaluating what it means for Turkey. Chapter 3 consequently critiques IWRM's core philosophies and their implementation in the European context.

Chapter 4 explores the foundations of Turkish political culture and its evolution from Ottoman bureaucracy through to the contemporary running of the state. This chapter demonstrates that Turkish political culture has a visible impact on how water bureaucracy currently operates.

Chapter 5 assesses inter-basin water transfers and discusses their viability in regard to IWRM. The chapter also presents a case study of modern Turkish water management:

the Melen Inter-basin water transfer (IBWT). This case illustrates the arguments around mismanagement issues in Turkish water governance and demonstrates the major problems that are brought about by the techno-engineering discourse by which Turkish water bureaucracy operates. Melen is a showcase of socially constructed political culture and the way it operates within a certain bureaucratic structure.

Chapter 6 reflects previously discussed themes using a Spanish case study that both compares and contrasts with the Turkish water management experience to demonstrate the similarity between the political cultures in water policy-making. This chapter makes the point that different social constructions exist within the EU and living with these diversities does not necessarily demonstrate success stories but compromise.

The Conclusion illustrates the fact that without understanding the social constructs of Turkish water bureaucracy it is difficult to formulate better water governance options for Turkey. The harmonization process will also be more challenging because the EU and Turkish water policy discourses clash as they are not equally considerate of each other's social constructions. The Conclusion suggests topics for future research that would help construct more efficient and equitable water policies. For Turkey, these policies would not necessarily be made to appeal to the EU but would be meaningful for Turkey to prosper and become more democratic.

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Chapter 2
The Social Construction of Water Management and Political Culture

…There are portions of the real world, objective facts in the world that are only facts by human agreement. In a sense there are things exist only because we believe them to exist.

John R. Searle (1995, pg. 1), The Social Construction of Reality

Everyday life presents itself as a reality interpreted by men and subjectively meaningful to them as a coherent world… The world of everyday life is not only taken for granted etc.

Berger and Luckmann (1967, pg. 19–20), The Social Construction of Reality

Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.

John Maynard Keynes

Engineering continued to find its place as science's handmaiden

Michael Goldman

This chapter lays the basis for my argument that water management is a social construction. The first construct is that engineering science and discipline has had a significant influence on water management and bureaucracies that manage water resources. Second, a closed knowledge system of orthodox engineering is useful politically and a monopoly on this knowledge by particular groups affords them a lot of power. Their particular epistemologies allow them to silence potentially dissenting views in particular political cultures. While in some political cultures this orthodox knowledge system, though still existing, might be strongly resisted by civil society, I argue that in a paternalistic political culture such as Turkey's this becomes difficult. Third, IWRM is a socially constructed concept because it has cultural biases in the way it is interpreted and defined. The concept rehashes old ideas in water management which are mostly evolved from engineering and spatial planning disciplines, and is made up of concepts that mean different things to different people. The understanding of IWRM varies depending on political cultures

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_2

and IWRM implementation, and it also differs due to a country being democratic and wealthy or not. The core of these arguments lies in social constructionist theory and tying together all these concepts can only be done by looking through the constructionist lenses.

In the following chapters this book builds into an argument that all knowledge is produced in a certain social context and can be challenged at all times. It also argues there is no such thing as a universal truth for social reality. This applies not only to social reality; our idea of physical reality is also partial and constrained by our imperfect understanding that changes over time. This means that it is inappropriate to talk about science as a singular, unified, agreed upon knowledge system. The underlying foundation is that both social and physical reality are produced in historical and cultural contexts because the relationship between 'knowledge' and its social base is dialectic. Knowledge is a product of, and a factor for, social change (Berger and Luckmann 1967). The acknowledgement of this interaction allows one to be skeptical about the reality of everyday life that presents itself differently to its members because it is inter-subjective[1] to its observers. Every member possesses 'a knowledge' of their own world and they base such knowledge on their own logic. This logic is validated in the context of a commonsense world that is self-evident to individuals.

Social constructionism envisions that what we traditionally believe to be self-evident is in fact constrained by the historical and cultural contexts into which we were born (Searle 2009). We operate within a set of assumptions based on our understanding of everyday life and these weave themselves into our perspective of the world and the self. Ultimately, this tells us why we might be mistaken when we say there is an objectively existing reality and that knowledge is uncontaminated by culture, history, and ideology (Gergen 1998).

Before setting the foundations of this argument, social constructionism needs explanation. First the chapter outlines the main assumptions of social constructionism. Second, it locates social constructionism as a theoretical framework for this book and demonstrates why it has been prioritized over other available paradigms. Third, the chapter uses this theory to interpret Turkish political culture and water bureaucracy.

[1] Inter-subjectivity: The term refers to the status of being somehow accessible to at least two (usually all, in principle) minds or 'subjectivities'. It thus implies that there is some sort of communication between those minds; which in turn implies that each communicating mind is aware not only of the existence of the other but also of its intention to convey information to the other. The idea, for theorists, is that if subjective processes can be brought into *agreement*, then perhaps that is as good as the (unattainable?) status of being *objective*—completely independent of subjectivity (Narveson 2005, The Oxford Dictionary).

2.1 What Is Social Constructionism?

Social constructionism[2] is about questioning things that we normally do not question because of the normalized 'here and now' of our everyday life. Its main argument is simple: since we do not question our everyday life experiences on a range of subjects and life has to go on, we usually take most of our knowledge for granted (Berger and Luckmann 1967).[3] The knowledge we encounter in our everyday life is interpreted by people and is meaningful in a particular subjective context. Owing to this fact, food demonstrates that knowledge is a culturally specific product. While fried tarantulas are a delicacy to a Cambodian and can be purchased from a street vendor, they are not considered a delicacy by someone from a different culture who simply is not used to eating tarantulas for a meal. Again, eating live octopus is a delicious taste experience for a Korean, but on the other hand, many tourists visiting Korea find this to be a dangerous endeavour.

While some areas of knowledge about everyday reality might be available and lucid to us, other areas might be cloudy (Berger and Luckmann 1967). For instance, people will often eat food associated with their cultural upbringing, not necessarily because they like or dislike it but, because it helps them identify with their cultural make-up. A Turk can enjoy a doner Kebab as part of that cultural background as much as a New Zealander enjoys whitebait fritters.[4] This is not limited to national traits but also applies to urban/rural or regional differences in the knowledge of food. Furthermore, unless our knowledge is challenged or has become obsolete, we take it for granted and continue to socialize it in time and space. There is no requirement to question the validity of our knowledge because it works in our inter-subjective worlds and within the domain of our common sense. People do things differently in their own 'here and now'. Our full attention is organized around our reality which is also shaped by our 'here and now' (Berger and Luckmann 1967). For instance, as a Londoner if my kebab tastes delicious to me, I don't care about the standard of the kebab or its authenticity. I might know it is not the authentic

[2] It is important to note that this book uses social constructionism as it relates to political culture and sociology of water bureaucracy. Whilst the theory of social constructionism is immense and used by many disciplines including psychology, pedagogy and international relations, and currently most often associated with the discipline of international relations (it uses the jargon of constructivism instead of constructionism), this book does not use for instance international relations interpretations of the social construction of reality, rather it uses a sociological perspective of the theory and therefore uses the jargon of 'constructionism' to separate its use from the others.

[3] Berger and Luckmann call the reality of everyday life as reality par excellence. They emphasize: 'its (the reality of everyday life) privileged position entitles it to the designation of paramount reality. The tension of consciousness is highest in everyday life, that is, the latter imposes itself upon consciousness in the most massive, urgent and intense manner…I experience everyday life in the state of being wide-awake.'

[4] These examples might not be accurate at all times and representative of a variety of cultural cases but they have been used to exemplify the logic where certain traits emerged from certain cultural backgrounds.

kebab because I might have holidayed in Turkey and tasted a kebab of better quality but that is not a problem in my here and now enjoyment.

Language is used to steer this here and now and less attention is paid to distant zones of reality. For instance, should a person's diet not include puffer fish, there would be little interest in the knowledge needed by special chefs to prepare the dish correctly. That means whenever I talk about and/or define reality, my cultural tradition follows me everywhere as part of my everyday knowledge, which is produced and evolved in that cultural tradition (Gergen and Gergen 2004). The same goes for others: I share most parts of this reality with 'others' like me and we develop a common sense of this sharing, however my 'here and now' does not entirely match theirs (Bergen and Luckmann 1967). Individuals carry different perspectives on the same aspects of reality, simply because their knowledge is produced in their own slightly different historical and social context.

In the world that I share with others, I establish a world that is inter-subjective. When peoples' social reality unites with their 'here and now', their consciousness process the knowledge of everyday life in different tones and variety. These various consciousnesses of fellow people are being expressed through shared conventions and systems of rules, which we set in words and language (Gergen and Gergen 2004). We interchange words and use language to be able to make sense of these different worlds and discover the meanings of fellow people's 'here and now'. We cannot reach the knowledge of reality without meaning. Language becomes our coordinates to reach the worlds of meaning. We cannot explain physical and social reality without the use of language. The way we use language conveys how we understand and feel, and the cultural background we are coming from. Depending on how we grew up and where, the way one person describes the taste of ice cream might be: 'it was okay' or 'it was fantastic'. An understated Englishman might say 'that ice-cream tasted okay' which meant it was a fantastic tasting ice cream. This is not so much about the taste of ice cream but rather exemplifies the situations and behaviour where English traits exist that are not similar to Turkish behaviour and reactions in similar situations.

The mutual social interaction sets the constructionist's essential motto; "nothing is real unless people agree that it is" (Gergen and Gergen 2004). Put differently, concepts such as money, governments and property are objective facts but they exist because people agree that they exist and are objective facts to a level that our consciousness and belief allows (Searle 2009). Some social constructionists believe that this applies to the social construction of physical reality, the paradigms that we apply in physics and chemistry (brute facts that exist independent from human opinion) as well as institutional facts set by human agreement. In this sense, all in all the constructionist stays away from the "ambition to locate the world beyond the social and historical and to produce single, unified, and monologic systems of knowledge" (Shotter 1993). Thus, constructionists challenge "the truth with a capital T" that represents knowledge as good, true, and one (Gergen and Gergen 2004). This is not to say there is no reality, physical and social for that matter, but to insert the notion that reality is usually predetermined from a particular cultural viewpoint. Hence, constructionists emphasize that even brute facts are being communicated and

exposed to a dynamic knowledge exchange between people that is contingent in language and meaning. This is the opposite of saying "we should agree on facts" and that physical reality is free of values (Naturalism).[5]

Consequently, a constructionist welcomes plural perspectives of reality and values likely to support multiple forms of dialogue. The paradigm invites "openness to many ways of naming and valuing" (Gergen and Gergen 2004). Reality is relationship-specific and challenging this reality invites many values and realities to be in the equation regarding our actions (Gergen 1999). A constructionist's role is to question 'the one best way' and encourage the sort of thinking that is "not constrained by anything traditionally accepted as true, rational or right" (Gergen and Gergen 2004). In fact, the constructionist believes that the idea that universal truth can be established beyond reasonable doubt has potential to 'impose' and this imposition could turn into oppression (Fearon and Wendt 2002; Gergen and Gergen 2004; Onuf 1997).

The following section elaborates on the main constructionist arguments. This is to ensure a clear articulation of the theory because I use it as a meta-theory linking multiple phenomena such as water policy, culture, bureaucracy and public administration. Constructionism in this sense focuses on social relations that other theories could not link (Onuf 1998).

2.2 Main Assumptions of Social Constructionism

There is no single description of social constructionism as commonly expressed by the constructionists. There are four main arguments of constructionism that are of major importance. These arguments are described as "things you would absolutely have to believe in order to be a social constructionist" (Burr 1995).

Firstly, a constructionist questions 'the situation' and has radical suspicion of the world taken-for-granted.[6] This means we don't have to confirm the taken-for-granted world by our actions. The world has commonly accepted categories and understandings that require confirmation through observation. Constructionists cast doubt on traditional knowledge within any given convention or way of understanding (Gergen 1999). The headscarf is a good example of this; while it is worn by Muslim women to conform to religious rules, it becomes part of a socio-cultural tradition

[5] Naturalism argues that science is the study of reality and that reality remains external to science itself (the nature exists outside science and can be neutrally observed) and is reducible to observable units (reducing everything to atomic units). This means that reality exists independent of our cognition and it can be accurately described. See: Delanty (1997).

[6] The phrase 'world-taken-for-granted' explains the system of self-validating assumptions about the world that we (society) create over history. Alfred Schuetz introduces this 'taken-for-grantedness' in his work "Choosing Among Projects of Action" in Philosophy and Phenomenological Research (1951), 167. A more sociological and constructionist account of the term also can be found in Peter L. Berger (1973). *Invitation to Sociology: A Humanistic Perspective* (Middlesex: Penguin Books), 136.

that is never to be questioned. This religious requirement has become a socio-cultural tradition, but then becomes part of the taken-for-granted world of Muslim men and women. A Western person can view the headscarf as a 'choice' and respect of a religious rule in Muslim societies. However, in achieving democracy and modernism, a Middle Eastern intellectual could view it as an impediment to society and a tradition that needs to be challenged.

Secondly, knowledge is constructed within a cultural and historical specificity. Knowledge does not have an objective basis. The foundation of our knowledge is historically and culturally specific. The process of understanding occurs under relative terms. These terms may belong to particular cultures and happen at a certain historical period, but this means knowledge is bounded with relativity. We cannot argue that 'our' way of understanding the world is any better than 'other' ways. At one time our understanding of the sun's movement across the sky led to a geo-centric view of the cosmos, which was believed to be correct and absolute. Yet the same observable data was later used to construct the helio-centric Copernican view.

Thirdly, knowledge is fabricated through the vicissitudes of social processes (Gergen 1985). We use language to establish our world of action and this constructs the social reality. Whenever we describe and explain, we 'make up' the future as we go along. However, we do not simply leave these patterns alone after constructing them. They are transformed in continued social interaction. As Gergen (1985) puts it: "the rules for 'what counts as what' are inherently ambiguous, continuously evolving and free to vary within the predilections of those who use them." For instance, the nuclear arms and space race between the USSR and USA during the Cold War aimed at bringing supremacy in nuclear arms and space knowledge. Yet, the genuine quest for scientific advancement by scientists was abducted by the politicians in order to prove ideological supremacy.

Fourthly, knowledge and social process work conjointly to reflect on our future making. We make decisions based on our understandings and perspectives of the world that contribute to our future making. By doing that, we naturally leave behind the perspectives that received negative reaction in the social interchange (Gergen 1985; Burr 1995). After all, when we suspend the 'obvious' in our knowledge and embark on exploring alternative framings of reality (Gergen 1999), we also reflect our historically and culturally situated traditions. We accept and take for granted traditions and knowledge drawn from the 'past'. For instance, with social networking now embedded in our lives, writing a proper letter and sending it in the post is well behind the current practicalities of communication afforded to our lives with e-mails and the Internet. The world is moving into efficiencies and any 'inefficient' knowledge is removed from the communication processes.

These arguments demonstrate that constructionism is essentially concerned with the multiple premises and standpoints of the world; how they came to be described, explained, or represented from a certain historical and cultural tradition. It also demonstrates their dynamic and relative nature. The most important idea in the constructionist explanation of the world is to legitimize 'other' traditions and

knowledge of 'other' realities that might have been marginalized otherwise. Eventually, the object of our knowledge (including scientific knowledge) only makes sense with our interpretations and language (Adler 2001; Berger 1973), and there are multiple interpretations of 'truth' which might just warrant a single position out of many. With the above assumptions, constructionism has certain qualities, which make it ideal for inclusion in this book as opposed to other available theories. The next section discusses why social constructionism is a better framework for this book than other theories.

2.3 Why Social Constructionism?

There are three major alternative positions to social constructionism. These positions, which are absolutely essential to make the points in this book, need to be described.

2.3.1 Realism: Conversation-Stopper?

Realists argue that knowledge is a direct perception of reality and that it provides an accurate representation of what is 'real' (Burr 1995; Delanty 1997; Shotter 1993). They believe that reality exists independent from our ideologies, moral concerns, and linguistic schemes. Alternative opinions are blocked in the world of realism because 'reality' sets the limits for what can be said and heard as well as setting the boundaries for what is true. In contrast, reality is a fragile term in constructionism. There is no such thing as objective fact without it having been perceived from some sort of cultural and historical background. We construct our versions of reality between us (Burr 1995). Constructionists believe that realism closes off options for alternatives in the disguise of making declarations about the 'real' (Gergen 1999). Therefore, realism cannot provide a framework for the main argument of this book, mostly because realism shuts the door to alternative drivers of action and provides only a single-sided explanation to my hypothesis. From a Realist perspective an issue such as water shortage demands a solution based on water provision, rather than more subtle approaches such as water efficiency. In contrast, social constructionism caters for interpretation between the cultural and historical contexts. Realism accords greater importance to non-cultural factors (i.e. financial and physical geography factors) when explaining why countries pursue a particular water policy. The Realist perspective only concentrates on reflecting 'what might be the most real' way of describing phenomena. This book does not prove that one position is 'real/true' and the other is not, but rather explores how many positions there are and the question of whether they can be reconciled.

2.3.2 *Idealism: The World as It Should Be!*

The claim that only 'ideas' of things, and not things themselves exist, is called idealism (Burr 1995). This position argues that the external material world is either constructed by or dependent upon the mind (Abercombe et al. 1984). Idealists believe that 'ideas' are regarded as the foundational set-up for 'making' up the social reality (Adler 2005). Ideas are representative of the world as it might or should be as opposed to how it is. For instance, removing corruption might be one's internal noble political mission. Believing in a 'corruption- free world' and making it a foreign policy mission via actions to make other peoples' countries corruption-free is idealism. One thing that separates idealism from constructionism is that the ideal could overtake what is desired and sometimes what is most important. Constructionist arguments do not champion one ideal over another (Gergen 1999). It does not matter how noble and moral these arguments are, idealism can impose upon people, especially if one talks about culture. Recent developments regarding gay rights in the US government's foreign aid policy provide an example of this. The US government announced sanctions for countries that fail to reform same-sex laws and refuses to provide foreign aid to these countries. Given that homosexual acts are illegal in, for instance, most African countries, no matter how much they need the aid, their socio-historical constructions about gayness will affect whether they can get financial aid.

Ideas become agents in the socialization of practices. They form themselves in the language with which we understand, and conceive the world and each other with (Burch 1997; Reus-Smit 1999). Constructionists believe that ideas catalyze social action and they define the limits of what is cognitively possible and impossible for individuals (Adler 2005). Knowledge-based practices are the 'act' of ideas, beliefs, judgments, and interpretations (Adler 2005). However, constructionism does not pinpoint certain positions and ideas, which might imply superior legitimacy of one idea over the other. Idealism limits our perspectives regarding our cultural, social and historical differences. The reason for using constructionism over idealism is that it weighs the validity of each idea in the world of alternatives instead of championing one idea over another.

2.3.3 *Positivism Versus the Paradigmatic World*

The reason not to choose realism or idealism to theoretically frame this book is the fact that they are inadequate to explain the impact of political cultures on water bureaucracies and are unable to explain political culture's influence on water management and policy. There is a third reason for choosing constructionism. The problem of natural science's self-nomination as a 'March to truth', in other words, a positivistic and naturalistic view of the world versus a paradigmatic take on scientific knowledge. While positivists believe the methodology of natural sciences can explain the social world, naturalists argue that the social world is identical to the

natural world and therefore the social world is also governed by the same principles that exist in the natural world. Both positions argue that 'knowledge' is produced by the natural sciences. By using natural science methodology, it is believed that natural sciences create the absolute and uncontestable knowledge about reality. Constructionism takes an anti-positivist view to challenge this paradigm.[7] Constructionists argue that "the empirical methodology that natural science uses is no meat grinder that produces perfect truth like standardized sausages" (Gergen 1985).

The constructionist position against positivism and naturalism has major significance for the main argument of this book because my hypothesis is that water policy and management knowledge is heavily drawn from engineering sciences where the engineering disciplines and technical knowledge have created a single-minded, elitist and privileged space for engineers to draw up water policy where social aspects of water management are handled from an orthodox engineering viewpoint. It is about the way that particular kinds of knowledge become utilized to accomplish particular kinds of political ends and the engineers advise certain ways of doing things because it makes sense from an engineering perspective.

Positivists believe that we need to unite social and natural sciences through analyzing and treating social sciences in the way we treat natural sciences. Based on this logic, the meaning of knowledge can only be explored by naturalistic science (scientism), and science therefore is the study of reality (naturalism). Physical reality can be reduced to observable units (such as atoms), which are essentially external to (and beyond) science itself, in other words, it exists independently from the human mind.

Positivists argue that things can only be explained by using the empirical method of verification and observation. Causal laws and observation are the foundation of the sciences. If something cannot be observed and verified, it cannot be explained. Bringing all of the above together, positivists believe natural science can be made free of social and ethical values and that science represents the facts and its results point to universal Truth (truth with a capital T). The Positivist argument natural science can also explain the social world because natural science has a judgment-free content sets up an elitist discourse of science where natural science makes significant assumptions about what is 'true'.

Two important developments in the philosophy of science challenged of these positivistic and naturalistic claims. The first development was Thomas Kuhn's theory of the 'paradigmatic' aspect of natural science and his argument concerning the need for a radical 'paradigm shift' to break out of the traditional rules of science (Kuhn 1996). This was to advance the prevailing scientific paradigm and the consensus around that. So the Kuhnian perspective is that scientists are reluctant to break from a paradigm that offers them security and that they do not usually look for anomalies (inconsistency and deviation from common rule) in the way they apply their methods. They use paradigms to impose the prevailing consensus. Therefore, natural science focuses on problems which only the prevailing paradigm can solve.

[7] This book's position is not that the natural sciences do not produce facts, or that nothing is real for that matter. It is the reality that the natural sciences produce has to change as its paradigm evolves.

The concept of truth then becomes the 'consensuses' in that particular scientific group that follows the same paradigm. However, breaking the paradigm might require radical change in 'perceiving the once celebrated paradigm' at a different level.

Sometimes it requires a cultural or attitudinal change to break out of the traditional rules of science. In this sense, the problem becomes 'which of two actual and competing scientific theories fits the facts better?' The person who embraces a new paradigm at an early stage must often do so in defiance of the evidence provided by prior problem solving. Observation and experience can drastically restrict the range of scientific beliefs, or else there would be no science. One thing that breaks the scientific paradigm is the arbitrary element in the scientific method, which is compounded by personal and historical factors, and usually the beliefs espoused by a given scientific community at a given time. The scientific community's 'here and now' determines the limits and borders of the paradigm they find. This means that scientists can only represent the truth within that paradigm and cannot validate the truth outside of the assumptions of that scientific community in consensus.

Karl Popper's *The Logic of Scientific Discovery* claimed the principle of verification should be replaced with 'falsification'. He questioned the reliability of the empirical method and claimed that "science does not prove anything by conducting experiments, in fact the number of experiments conducted does not matter; there is always a possibility that a scientific theory can be falsified" (Popper 2002). He asserted that the principles of empirical methodology are conventions but not facts. On this basis, he rejected the naturalistic view of science as uncritical because whenever it was thought that a new fact had been discovered, the scientific community had only come across a new convention. Popper's falsification clashes with the naturalistic position and scientism, which proposes that the conventions of science are empirically reachable, and can be regarded as the universal truth. This carries the danger of seeing science as a dogma, as well as its meaning, methods, and the idea of science (Popper 2002). Therefore, not only the social reality, but also scientific conventions should not be taken for granted. Popper's and Kuhn's work on the philosophy of science greatly influences this book by buttressing the argument that engineering is an applied science that is constructed in the water management context and is deeply embedded in the political culture of the Turkish water bureaucracy.

With the assumptions made above, we must be careful in our belief that scientific progress could move us closer to the truth. The fundamental point is that science should not be taken as the single source of truth-making. On the contrary, progress in one scientific convention could invite the dogmatic perception that the scientific knowledge is a reflection of reality. This eliminates the possibility of multiplicity and flexibility of knowledge which would be based on multiple scientific conventions. Science appears to tell the truth because it operates within a reality that is founded by scientific principles. This is a vicious circle whereby the truth created by science reinforces the reality which then in turn gives legitimacy to science. This creates the fallacy that science is a moral endeavour to find the truth and therefore its practice should not be open to ethical examination. The inquiry based on this

logic becomes almost untouchable and not subject to scrutiny. This thinking is applied to water resource management and the concept of political culture below.

2.4 Social Constructionism Applied

Previous sections explained the theoretical position of social constructionism. We now proceed to an explanation of how constructionism comes into play in this book. This is done using two hypotheses.

Firstly, water resource management knowledge has been heavily drawn from 'engineering science'. Engineering as an applied science has a strong influence on water policy-making. This is useful politically because a closed knowledge system of engineering and the way it operates establishes a monopoly and affords engineers a privileged status. In this sense, IWRM is formulated around technical knowledge which is mostly based on reviving the engineering profession's old technical river development ideas. In addition, despite having ideal principles and being based on technical premises, IWRM's definition is vague. Its implementation mostly depends on how one interprets it as IWRM means various things to various parties.

Secondly, the implementation of IWRM in Turkey is expected to take place when the EU common water policy, the WFD, is adapted to national legislation. However, Turkish political culture has a great impact on how water bureaucracy operates. Similar political cultures in Europe (such as Spain) demonstrate that IWRM has not been practised as the EU Directive representing IWRM has a Northern European bias. Hence, IWRM not only has a vague content but it also is difficult to put into practice because of the differences of political culture in the EU. IWRM implementation becomes a moot point because water bureaucracies operate within the certain codes of conduct under their particular political culture. How engineering science and IWRM fit social constructionism will now be discussed.

2.4.1 Engineering Knowledge as a Social Construct

Science and technology mobilize available cultural resources in making an artefact (Pinch and Bijker 1984). In the making of natural knowledge, technological innovation and invention progress alongside socio-economic demands and necessities (Gana and Fuentes 2006; Wynne 1988). This ultimately makes technology and applied sciences behind that technology a "grand scale covert social experiment" (Wynne 1988). It is not so much of a surprise that technological innovation constantly has drawn from 'in the making' scientific knowledge as it mainly operates on assumptions that ultimately derived from scientific paradigms. Scientific knowledge and technology relied on a series of assumptions that are ad hoc and opportunistic (Potter 2003).

By the twentieth century, social, environmental, political and ethical impacts of technology on our daily lives had been widely debated (Goldman 2004). There was a greater acceptance of technological advancement being compartmentalised. This lulled public perception into seeing technological advancement as unproblematic and autonomous (Goldman 2004; Wynne 1988). Engineering and its applied science is one such example of this. Engineering discipline is one way of defining the relationship between humankind and nature. By means of engineering, we harness, protect and utilize nature. While science is theory and searches for a correct view of reality, engineering takes that view of reality and prepares to establish a separate reality by building artifacts (Broome 1985). Despite it operating within the complexities and value-laden assumptions of its prevailing paradigms, engineering has a clean public image to such an extent that the knowledge the profession uses informs policy decisions without much challenge and also impacts on socio-economic welfare. In this section engineering is put under the microscope because engineering has been and still is the main driver of water policy-making in Turkey as part of the political culture of its water bureaucracy. The paternalistic qualities of this bureaucracy result in a rigid way of looking at water and its management. There are a number of reasons why an engineering perspective becomes useful in such a political culture.

Firstly, engineers work with shifting circumstances (anomalies) that they tend to 'normalize'. Their subject matter is open to uncertainty. It can change over time and is action-oriented (Goldman 2004). The engineering way of solving problems is meaningful in a specific context and contingent on the anticipated parts of the anomaly they are focusing on. Working regularly with anomalies gives engineers the commitment and the opportunity for experimentation as well as the confidence to 'assume' on a regular basis (Lynch and Kline 2000). This also causes engineers to convince themselves that they are arriving at accurate knowledge of anomalous behaviour and therefore what they make or construct is not harmful given the large numbers of unknowns. However, in the engineers' world this is taken for granted and they are confident that although they cannot anticipate all problems, their solutions withstand any uncertainties. It is a narrow, technical, and immediate problem-solving ethos. This makes difficult decisions that are defined by a technical and economical cost perspective less problematic. The determination of the technical and economical cost is entirely bounded by their clients' budget devoted to the engineering work contracted.

Secondly, engineers construct based on the clients' demands or projects (Goldman 2004). This first means engineering anticipates action and second, this action's context 'formulated' by a client's agenda also identifies what technical knowledge will be exploited and used. Because of this most engineering practice operates in and evolves around a set of taken-for-granted assumptions with a very limited decision-making capacity for the engineers themselves (Lynch and Kline 2000). Commerce and science discourses place constraints on what engineering can be (Johnston et al. 1996). This means that the engineering discipline defines a specific problem and solution that ends up being blended with value judgments that are conditioned by technical expertise (Goldman 2004). Therefore, engineers have

little input into higher decision-making of their projects and deeds because they serve a specific course of action endorsed by their employers, clients, institutions, or the managerial hierarchy. In this sense, they line up with the production discourse and tend to focus on increasing productivity, developing new products, processes and systems. On the other hand, the benefit distribution of what they build is left out of their focus (Johnston et al. 1996). A technocratic stance for production and development has resulted in the engineering discipline serving one specific, highly contingent style of value judgment and political agenda.

So, having partial information and judgments good enough for the job to be done is a priority in this type of reasoning. Because it is action-based, engineering creates a rhetorical context that acts on practical foundations (Goldman 2004). This is ultimately 'bounded rationality' and aims at 'satisfying' (the client/boss) so that practical action can occur (Goldman 2004). In the engineering world, things might not always be ideal but simply tolerable. Engineering work sometimes obscures the main understanding behind the job itself and the value of getting the job done (Goldman 2004). This ultimately makes engineering only a technical journey.

Engineering practice has to exclude other discourses for engineering to be practical and has not been widely criticized within its own circles. Engineering education focuses on engineering science. This leaves the discipline setting up its own discourse within its practice and does not allow other disciplines to engage as it is not feasible and practical in the greater scheme of how engineering operates. The development of engineering discourse has occurred to the virtual exclusion of other disciplines of significance to the practice of engineering (Johnston et al. 1996). Engineering practice lacks social meanings and consequences. Not having multiple discourses to work with has resulted in a serious limitation in the engineering discipline regarding the social implications of their work and its social meaning. Engineering practice is empirically based and draws heavily from mathematics and physics where "social meaning and impacts are rejected and ignored" (Johnston et al. 1996). Interaction with the public interest arises when engineering or its consequences contradict the public good (Lynch and Kline 2000). This has not been approached in the water policy area in countries that have paternalistic political culture and the engineering discipline is relied upon in water management.

2.4.2 Political Culture as a Social Construct

As with engineering knowledge, political culture is also a social construction. Turkish political culture has been a vehicle for making engineers water policy-makers and bureaucrats. Engineers' position in the policy making space has created a political culture for water bureaucracy.

This political culture has many negative characteristics. It is paternalistic and dominated by single-sided, technical aspects of water management. The State delivers services to the public and any challenging opinion regarding bureaucracy's actions is considered ungrateful. This has distanced water bureaucracy from

socio-economic aspects of water management. By doing that, this political culture makes engineers, bureaucrats, economists, and planners the major stakeholders for national water policy and deciding what to build and where reducing water management to a civil engineering, cost-benefit exercise. This alienates ordinary people from decision-making on water management as engineering practice is too technical and stifles environmental awareness and reduces the public's ability to catalyze debate around water and its management. This whole construction assumes that engineers are also good social scientists and good at public administration, and that they always know what is good for the society.

This book questions all of the above. It investigates the questions of how engineers have ended up steering policy and why, since the foundation of the Turkish Republic, engineering has been perceived by the Turkish people as a heroic endeavour and has been used as a nation-building exercise. This heroicness has also introduced an elitism to policy practice and the execution of major water policies. These policies have in return been difficult for the Turkish public to decipher and they have rarely been explained or discussed widely as they are considered the deeds of the 'father state'. There is almost a tacit assumption that all challenges to water management originate from extreme environmentalists. However, the main national debate has never been in the direction of what is our water policy and why it is formulated this way. Turkish society is silent about the ongoing application of water management. There are no alternatives to challenge the current paradigm and understand where the opposite perspectives come from and what they might mean. I challenge this paradigm by arguing that Turkish political culture is an inhibiting factor in the establishment of democratic water governance in Turkey.

I use the term 'political culture' very often in this study to rest my arguments on the traditional features of Turkish bureaucracy and its water discourses. There are various definitions and typologies of political culture. At the heart of the political culture theory lies the concept of 'culture' as a psychological input that stimulates and orients the political system. This is done with "attitudes, beliefs, values and emotions in the explanation of political, structural and behavioural phenomena" (Almond 1983). Political systems are integral to a certain structural set of roles that reflect particular meanings and purposes (Almond 1956). Every political system consists of a particular pattern of orientation leading individuals to political behaviour (Almond 1956). The political culture of a society includes "expressive symbols, empirical beliefs and values" (Verba 1965) and "internalized cognitions, feelings and evaluations of its population" (Almond and Verba 1963). These cognitions and feelings governing political action are just not random inputs into a political system (Pye 1963); on the contrary they appear endogenous and are embedded categories of political action. Political culture is the sum of traditions of a society, the spirit of public institutions, enthusiasm, collective memory and reasoning of its citizenry, the style and operating codes of its leaders that are meaningfully codified in historical experience and relationships (Pye 1963). Dittmer explains political culture as a system of political symbols because these symbols convey, clarify and express how people feel about politics (Dittmer 1977). Mamadouh defines political

culture as the sum of political community's perceptions of politics and the environment that moulds these perceptions (Mamadouh 1997).

Within this field of political culture there are numerous typologies. For instance, Almond and Verba (1963) describe parochial political cultures, whose members usually have no expectations from the political system. In fact, they cite Ottoman Empire citizens as members of such a political culture, emphasizing the intellectual distance between the agencies of central government and the Ottoman townsmen, villagers and tribesmen (Almond and Verba 1963). Mamadouh's concept of traditionalistic culture stresses fatalistic features that preserve a "hegemonic hierarchy" in the society. In this society:

> Equality of individuals is only recognizable before the law. Consent is hypothetical. The state is minimal or authoritarian. Politics is reserved to the appropriate elite. Participation is secondary. A political position is a resource for other social interactions…they can be rather paternalistic and favour social policies for their clientele. Bureaucracy is seen negatively… a traditionalistic culture can be more or less fatalistic. They do not believe they should participate because it does not matter anyway (Mamadouh 1997, pg. 23–24).

What makes the concept of political culture relevant for this study is that it enables explanation of the deep-seated factors that potentially hinder progressive change in societies. It demonstrates the cultural factors that need change, but which are in fact difficult to change because they have been deeply embedded for a significant period of time (Almond 1983). Political culture enhances understanding of attitudes and primitive political beliefs which remain unchallenged, for instance, in developing nations' political systems. Deep-seated fundamental political beliefs play a major role in which institutions develop and change (Verba 1965). In transitional political cultures they are integral to the societal change. For instance, people's participation in water management within undemocratic societies is such a challenge: if the citizens perceive participation as a technocratic-bureaucratic activity rather than as a right of citizenship, then the disengaged and uninvolved civic culture will be reinforced (Pateman 1980). Moreover, in such political cultures people will not consider themselves as participants in the governing processes but feel subjects of the government since they seldom care what the government's ultimate decision might be (Verba 1965). Another example is that political culture is a beneficial theoretical tool in understanding the causes behind low political integration in societies. A nation's historical experiences could define whether a society shares a deep sense of community or has a long lasting tradition of distrust among its members.

Political culture can explain what motivates people, how individuals and institutions are organized and what roles they are allowed or forced to assume (Lane 1992). It does so by investigating the deeper roots of the political system and demonstrates how and why the surface opinions are developed (Lane 1992). These opinions are shaped by looking at the political system's dealings with significant problems it has faced in the past (Verba 1965). Political culture can connect patterns of political orientation to cognition, intellection and adaptation as part of an autonomous variety of culture (Almond 1956). Political culture provides a unique definition of rationality that explains the actions of individuals. This rationality does not alter economic rationality but adds a layer to cultural understanding that complements the economic

reasoning (Lane 1992). Economic rationality is not the only source of rationality in that it represents the static and artificial bases of rationality whereas culture could facilitate a much broader framework in this context (Lane 1992).

The way that people decide what their interests are depends not on human perception, "they are not self evident, and they do not come with a birth certificate" (Wildavsky 1987). Only the interests that will fit into people's shared meanings and only specific preferences, which could match the society's socially viable options, will be followed. Thus, they are formed within a web of social organizations and interactions; they are endogenous to people's lives (Wildavsky 1987). Ultimately, the preferences "are not bare facts and interests" (Mamadouh 1997). Political culture is therefore able to explain the interpretations and perceptions regarding political systems that other schools of thought would not because politics is simply not the same everywhere (Mamadouh 1997; Verba 1965). Political culture is a strong tool in understanding how perceptions of reality differ and styles of decisions vary (Lane 1992). Political culture can explain the reasons behind the perceptions of political orientation. There are cultural beliefs and values behind the formation of perceptions and the ways in which they evolve from the historical experiences.

Culture, as Wildavksy states, is a powerful construct (Wildavsky 1987). If culture conditions people's orientation toward nature in a fatalistic and resigning manner, our perception and behavioural stimulations toward government are expected to be the same (Verba 1965). People's decisions and preferences get constructed over time because they make their decisions with continuing reinforcement, modification and rejection of existing power relationships (Wildavsky 1987). Therefore, they decide and learn while culture conditions their preferences (Verba 1965).

The theory of political culture does not take preferences as pure interests. It assumes that preferences are internal to agents and institutions and they emerge from social interactions; they cannot be considered without the culture that conditions them. Thus, preferences regarding political objects are stimulated by cultural orientations. They are modified through time and they are not bare facts but the products of the social construction and reconstruction of political behaviour (Wildavsky 1987). Existing cultural phenomena are taken for granted in the social inquiry. For instance, primitive political beliefs are manipulated by individuals' interrogation of social relations and their surrounding social medium. They passively exist but implicitly stand. Yet each individual holds them and believes all other individuals hold them; they are generally taken for granted and unchallenged in the social inquiry (Verba 1965). However, this book argues that these perceptions are socially constructed and without challenging them we cannot understand why IWRM is impracticable in Turkey.

2.5 Conclusion

One of the most striking features of constructionism is its integrative approach towards understanding phenomena. Constructionism invites greater conversation between other explanatory theories and does not claim superiority in explaining

reality (Gergen 1999). Constructionist theory encompasses alternative schools of thought and their contexts in a systemic and structured fashion (Reus-Smit 1999). The constructionist perspective requires looking at different facets of relationships and associated belief-systems. This is very valuable for my book.

The constructionist position interprets what alternative perspectives offer in the explanation of phenomena and incorporates knowledge produced in the 'past way of doing things' (traditionalism) for better understanding of how our motivations shape our interests and form the basis of our social actions. Our interests, norms, and motivations are relationship specific (Wendt 1992). There is a history and tradition of exchanging meanings of social reality. It makes meaning a negotiable concept and that as the conversation develops we render 'what we mean' as porous and open to change (Gergen 1999). The constructionist proposition is that we mentally arrange our individual worlds and the worlds of experience to cope with multiple realities (Gergen 1999). A constructionist view opens the doors of many values, a unique position that a positivistic and naturalistic view of science would not be able to offer.

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Chapter 3
IWRM as a Social Construct

This chapter analyzes the concept of IWRM and evaluates its historical foundations and how the term is socially constructed. It then discusses the EU's common water policy, the Water Framework Directive (WFD), as an illustration of the IWRM paradigm. The chapter is structured in two sections. The first section explains IWRM's early evolution from the river basin idea and its modern emergence and promotion in the 1990s at several international forums. The second section explains the EU WFD as a practical example of IWRM. WFD is not only a good example of IWRM policy but its implementation is heavily dependent on understanding the different political cultures in the EU. The purpose of this chapter is to reveal the social constructs behind both IWRM, as an impracticable water policy, and the WFD, as legislation that is politically and culturally biased and therefore is difficult to implement.

The chapter initially gives a brief historical account of the river basin paradigm and how it became regarded as the most appropriate decision-making unit for river basin development.[1] It also explains how the effort to recognize the river basin as a management unit has been promoted internationally under the IWRM concept after the 1990s. Promotion of IWRM flagged a paradigm shift with 'river basin development' turning into 'water resources management'. Despite the paradigm shift, in practice IWRM is just a repackaging of out-of-date Western ideas; it

[1] By water resources development, a physical change in stream flow is meant. This could be any technical intervention, such as storage or diversion to make sure the water is available when and where needed. Water development at the river basin level gained strategic importance in the western United States beginning in the 1930s a very well-known first practical example being Tennessee Valley Authority, TVA that proposed multi-purpose (such as hydropower, recreation) use of water resources was utilized for economic development. Water resource development was used to increase agricultural production to increase standard of living in underdeveloped regions. At that stage, the western world mainly understood river basin development as an important component of economic growth until the conservationist movement of the 1960s. It became evident that human interventions in the river flow created environmental problems and further socio-economic issues. Early "integrated" approaches were used to reconcile the increasing environmental and social issues which resulted from technical interventions. Despite efforts to minimize environmental impacts and better control them, projects have been executed at the river basin level integrating different economic purposes.

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_3

dominates in developing countries under privileged engineering bureaucracies poorly adjusted to actual basin requirements.

The second part of the chapter analyses the EU WFD as socially constructed legislation founded on the principles of IWRM. It goes on to argue that the Directive reflects northern European concerns over 'water management' and gives little importance to southern concerns of 'water development'. Two opposite political cultures of water bureaucracies in the European south and European north perceive IWRM in their own contexts. Western nations' water bureaucracies interpret IWRM as the increasing use of participatory water management at the river basin level, but in fact truly implementing IWRM requires Western qualifications in political cultures such as, a functioning democracy, transparency of information, less paternalism, helpful and sharing bureaucracies instead of non-transparent, uninformative and privileged technocrats. IWRM implementation becomes unrealistic due to diverse political cultures of the responsible water bureaucracies. Overall the chapter answers the research questions: how is IWRM socially constructed and what does this mean for the WFD implementation in the European and Turkish contexts?

3.1 Historical Background of IWRM

A 'basin' of a 'river' is defined as "the tract of country drained by a river and its tributaries, or which drains into a particular lake or sea" (The Oxford English Dictionary 1989; Webster Comprehensive Dictionary 1977). Although a river basin is not a constant and precisely defined geographic unit, the intertwined system inherent to a river basin indicates that the waters in a river basin flow to a common terminus and the final destination of the water forms an interconnected body (Teclaff 1967). A river basin works in a cycle that has deep internal and external systemic relations. The process in the system is related to complex geomorphic and fluvial linkages and the inevitable relationship between land and water resources. At different periods of history, people not only realized the physical integrity and connectedness of the basin, but also used the basin as an administrative and territorial division (Fawcett 1917; Wescoat and White 2003).[2]

The use of the river basin as the basic unit for assessing water resources is long-standing (Biswas 1970; Gregory 1976; Molle 2006; Nace 1974; Newson 1992. See Table A.1 in Appendix).[3] Human beings started to form a relationship with river

[2] For instance, at the beginning of twentieth century C.B. Fawcett tried determining the 'suitable' divisions of England to mark boundaries for good local governance. He then identified boundaries of watersheds as one of his suitability criteria (See: Fawcett (1917). French Geographer Jean Brunhes studied dividing France based on river basins. He emphasized that river basins are historical expressions of the administrative boundaries. He based this on the studies done by French hydrologists that there was a connection between the amount of precipitation and discharge. (See: Wescoat and White (2003)).

[3] Chinese emperor "Yü the Great" paved the way for what we can call today the prehistoric conceptualization of river basin. See: Biswas (1970). Emperor Yü brought the preceding hydrological

basins for irrigation purposes beginning in the sixth century BC (Newson 1992; UN-DESA 1958). Mighty rivers were used for prosperity, food and agriculture. The Nile in Egypt and Tigris-Euphrates in Mesopotamia were the first fluvial civilizations and their entire existence was based on controlling and utilizing waters. They built water works for irrigation, flood control and navigation (Teclaff 1996).

The Industrial Revolution brought scientific and technological advancement in Western Europe and the United States. The trend towards industrialization and urbanization not only brought the river basin to the fore as a spatial unit for economic development and production but an improved understanding in technical and engineering expertise was also gained. Prevailing water policy was aimed at exploiting and making the best use of water resources in the 'economic sense'. After this, the concept of river basin development gained popularity. It was defined as the major human intervention and physical change by technical means in the stream flow. This implied two things: first, regulating the flow by storage, diversion, or land management to make water available when and wherever needed, and second, the intervention to maximize returns from water use (White 1957). For instance, in the late nineteenth century, fullest utilization and the first primitive examples of multiple-purpose river basin development took place in line with technological progress (Teclaff 1967; White 1957).[4]

The cost-effectiveness of technical development and controlling river flows brought unprecedented opportunities for economic growth, production, and ultimately increased welfare. The beginning of the twentieth century paved the way for ideas of multi-purpose development of water resources (Teclaff 1967) when the invention of hydroelectric power generation and its subsequent conveyance over long distances had been realized. The concept of multi-purpose use of waters flourished under different names, such as multiple-purpose storage projects, basin-wide programmes, and comprehensive regional development, showing that river basin development had socio-economic motives. It originated from the "desire to provide a more equitable and favourable economic and social climate for all its citizens" (Kraenzel 1957). This social motivation first concentrated on augmentation of economic (mainly agricultural) production in underdeveloped areas. By using hydraulic means and engineering interventions to nature, the idea was to increase incomes, facilitate economic progress, and provide stability in backward parts of the country (Kraenzel 1957).

knowledge on rivers and primitive knowledge about river basins. See: Newson (1992). Although they built impressive water works based on Greek hydraulic ideas Roman and Arab engineers were unaware of the hydrological cycle, they built structures without necessarily understanding this cycle. See: Nace (1974) and Molle (2006).

[4] For instance, spatial planning for the Aswan Dam on the Nile by Sir William Willcocks in 1890 is regarded as a pioneer work, due to several ideas being produced on how to utilize water in multiple purpose projects (See: White, *A Perspective of River Basin Development*, 161) The idea then spread to Europe, especially to Germany (and particularly the Ruhr River) where German Mattern presented the same kind of projects as a more useful methodology related to the water use. See: White, *A Perspective of River Basin Development*, 163. By the 1870s, the US had schemes in place, such as the Mississippi River Commission for dealing with flood control and navigation. See: Teclaff, *The River Basin in History and Law*, 114.

It is often argued that multi-purpose river development projects were economic justifications of political agendas, one famous example being the Tennessee Valley Authority (TVA) development that began in the 1930s (Dixon 1964; Wengert 1957).[5] TVA is a good example of state engineers as bureaucrats trying to deliver a programme with a strong political focus and aim. The development of TVA followed the Great Depression years in the United States, and its logic relied heavily on improving the standard of living in the Tennessee Valley (Boyce 2004; Lilienthal 1953). It is regarded as a milestone in river basin development as it used a new methodology for water resource planning, consisting of different aspects of water, where technology was incorporated with the socio-economical ideas on water development (Molle 2006; Morgan 1974; Scott 1998; Teclaff 1967).[6] It was considered "the prototype for unified basin-wide programmes of multiple-purpose projects" (White 1957, pg. 171).

The TVA was a unique example because there was no repetition of such a valley authority in the US (O'Neill 2002). It was located in a very suitable spatial area, which was perfectly fitted to realize a range of engineering structures without harming the existing infrastructure (O'Neill 2002). It was a remarkable achievement of decentralized water governance in practice, and an example of a bureaucratic-free system (Molle 2006). The Authority's attempt to catalyze public participation was grassroots democracy (Owen 1973). The main criticism TVA received was that regional effects were not planned or managed, but were only realized at the end of the process when important decisions regarding the physical structures on the river basin were being made. Engineering and water works were based on a rigid cost-benefit feasibility framework for the purpose of controlling water. While this technical and engineering perspective worked well when deciding to construct a dam, it was not so useful measuring well-being, diversification of industry, agriculture or welfare (White 1957). The TVA type of example and institutional structure became famous in the developing world and was imported from the United States. Multi-purpose water development projects arose independently in Europe. Northern European countries had examples of this kind of river basin-based projects (See Table A.2 in the Appendix). For instance, France approved a water law in 1919 that recognized river basin unification and French engineers initiated a multi-purpose project for navigation and power production on the Rhône. Germany and Italy

[5] The term is about the "boomer" attitude of the twentieth century, which contemplates resource utilization, disposal, and settlement of public domain. See: Wengert (1957).

[6] In 1907, the President of the United States, Theodore Roosevelt, established a Commission entitled "the Inland Water Commission" to develop an understanding of combined use of rivers including: water transport, hydropower generation, flood control, irrigation, water supply, and the organization of the federal activities related to the overall program (See: Molle, *Planning and Managing Water Resources*, 8). The Commission's report emphasized that water is a finite resource and it should be treated as such and so stated that multi-purpose projects are the most economical and rational way of water exploitation (See: Teclaff, *The River Basin in History and Law*, 115). These findings led to a political decision being taken and in 1927 the American Congress enabled the Corps of Engineers to undertake "general plans for the most effective improvement of navigable streams and their tributaries for the purposes of navigation and the prosecution of such improvement in combination with the most efficient development of the potential water power, the control of floods, and the needs of irrigation". See: Morgan (1974).

attempted to introduce the river basin concept into their water management framework and legislation (White 1957). A national survey was released in Spain in 1933 stating water resources should be treated at the river basin level (White 1957).

3.2 Modern Definition and Emergence of IWRM

The more people understood the technicalities of how the natural system worked the more they wanted to use these technicalities to further produce and grow economically and to improve living conditions within a basin. However, human interventions in river basins were not just for the sake of citizens but were developed within specific agendas and by utilizing technical expertise and available knowledge. Improved technical understanding of the river basin was accompanied by a better appreciation of the impacts of our interventions on river basins naturally over time. River basin development started to change to integrated approaches and evolved from a development to a management paradigm.

The first international use of integration was in the 1950s. This coincided with the United Nations Secretary-General recognizing river basin development as fundamental for economic progress (Teclaff 1967). River basin unity and basin-wide planning found popular resonance. Technical and non-technical aspects of river development were recognized by a UN report in 1958. A Panel of Experts' report entitled 'Integrated river basin development' acknowledged non-technical, complex human involvement in water management practices. The Panel acknowledged that the river is a living entity with its social and cultural components and that it creates wealth that should be shared equitably by utilizing the potential riches of the river (UN-DESA 1958). The Panel report recognized the limits around water resource use, the magnitude and the environmental impacts of engineering works undertaken in river basins in the early twentieth century and the amount of money spent on these big water structures regardless of how their costs and benefits were balanced. It highlighted that the technical development of water resources was prioritised and that social aspects of water development were overlooked, which resulted in increasing costs in the long run (UN-DESA 1958; White 1963).[7] 'Integration' meant that control and use of water resources for multiple purposes should be coordinated and negative effects could then be avoided. There were two aspects of this. The first was the hydraulic aspect which referred to the integration of water utilization and distribution, and the second was about the issues resulting from technical projects being executed, in other words carrying out large-scale water schemes under best possible conditions (UN-DESA 1958). Nevertheless, the rationale behind river basin development remained the same: mobilizing river basin resources to direct socio-economic development (UN-DESA 1958; White 1963).

[7] White (1963) explains: "the supplies of water are finite, the opportunities for management are large but limited…" and resource use is dependant on complex models which needs long periods for patterns to be determined in a proper context.

Since the socio-economic development activities were planned, judgements were made that were formed from institutional (mainly planning) values. While they fitted socio-economic expectations, they did not necessarily meet ecological or environmental expectations. Thus, the perception around the concept of integration in the late 1950s was that the technical profession kept its privileged position and that it should carry on what it was doing but also be careful how much environmental and social impact it created. The Panel Experts' Report recognized that better coordination and integration was needed in building large water works.

This recognition of the river basin as a physical unit for best utilizing water resources was a founding principle of the IWRM concept in the late 1950s. From this concept, integrated approaches in water resource utilization emerged. More importantly, the mismatch between physical, social, cultural, economic, and environmental scales of a river basin became more complex, the more the rivers were utilized. Fundamental issues of the twentieth century, such as population growth, urbanization, industrialization and growing environmental concerns, brought forward a new multi-faceted thinking with regard to water policies. Traditional water development approaches identified as full utilization and control of river flow began to change and comprehensive management thinking has gained acceptance despite the trade-offs being complicated (Pahl-Wostl and Sendzimir 2005). The failure of policies under fragmented water bodies and structures (Falkenmark and Rockström 2004) showed that water policy packages contained a different range of issues and challenges. Some of these were highlighted and have been found to be more pressing than others including that: most countries do not accept water as an economic good; water services are mostly administered in overtly centralized systems and fragmented between sectors; and bureaucratic institutions, environment, and human health are not in the equation and are ignored most of the time (Serageldin 1995). As it was becoming increasingly difficult to coordinate water management activities, the integration movement became popular in the early 1990s.[8]

[8] Water management has been defined as people's control of water as it passes through its natural cycle, with balanced attention to maximizing economic, social and environmental benefits. However, environmental trends in the 1980s changed this definition. Growing public concern over environmental issues such as water pollution and groundwater exploitation, biodiversity and soil degradation had an important role in this radical change. Management definition evolved into integrated activities that require a more comprehensive focus on water resource exploitation and connected spatial planning. This meant the management of interrelated resources with an emphasis on environmental quality, stakeholder involvement, and coordination of water management activities. However, while the river basin provided a perfect physical scale for understanding how the water cycle worked, there were aspects of water resource management where it was not enough to think solely based on river basins. Integrated approaches were called where resource management issues and interests became overly complex, numerous and conflicting. There was an expectation that thinking holistically at the river scale would bring environmentally, economically, and socially balanced water development. However, there was wide debate regarding what integration meant, the subjects of integration, and what needed to be done to integrate.

Several definitions of integration exist (Bellamy et al. 1999; Calder 1999. See Table A.3 in the Appendix)[9] and this creates wide confusion among policy practitioners. Scholarly and technical definitions of IWRM are long-standing but doubt hangs over a common definition, firstly because IWRM has a long historical background and secondly, although water professionals agree on the foundations of river basin science, their interpretation of institutional integration is convoluted and concerned with rigid bureaucratic execution of the water policy. Although theoretically IWRM incorporates the human and non-technical aspects of water management; in practice, social sciences and the human dimensions remain on the margins of IWRM.

The concept of water management evolved around orthodox engineering knowledge, which was intended to be multi-disciplinary, but mainly came from the fields of natural science and engineering. For instance, IWRM literature is drawn from only a narrow number of disciplines, namely the natural sciences, and this has given integration an inaccurate meaning whereby it only refers to integration amongst the narrow band of disciplines already involved in water management. This has not, as it is meant to, involved the integration of disciplines traditionally outside of the water management field, such as the social sciences. This state of affairs is exacerbated by the internationalization of the concept after the 1990s when some of the most important international water conferences introduced the word as if it was a new one (Biswas 2004). To date, IWRM is mostly used by international and/or non-governmental organizations (Cardwell et al. 2006). IWRM's international appearance and promotion occurred in the early 1990s during the UN's Dublin and Rio processes and peaked in 2003 when the Global Water Partnership (GWP) proposed an IWRM definition and as a global NGO continued its effort to promote IWRM worldwide (see Table A.4 in Appendix). When the GWP presented its IWRM definition to interest groups, it suddenly became the standard and became referred to frequently. Thereafter discussion has revolved around the components of this ambiguous definition (Rahaman et al. 2004; Snellen and Schrevel 2004). It is ambiguous by nature of the fact that it contains a number of terms, such as equitable, vital ecosystems, sustainability, economic and social welfare which can have vastly different interpretations.

> IWRM is a process, which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (Jonch-Clausen 2004, pg. 14–15).

[9] 'Integration' has been used in a number of ways in the academic literature. Prevailing literature is mostly in natural science disciplines and spatial planning writings. Table A.3 in the Appendix offers a brief summary of selected literature showing how the word integration has been used to mean different things, and under different labels meaning exactly the same thing. It offers a brief presentation of how IWRM has been described in the literature within a number of contexts such as integrated resource management, integrated environmental management, integrated catchment management, watershed management, environmental planning, bioregional planning. For a detailed debate see: Bellamy et al. (1999). For IWRM'S interfacing concepts, see: Calder (1999).

This re-introduction and reformulation of an old concept enabled international organizations to establish their own agendas to use IWRM without necessarily knowing how IWRM is interpreted in different national contexts and whether it is practicable. Because IWRM is defined as a process, some have argued that it offers general principles and that therefore one does not need to know about the national contexts. However, it soon became clear that the IWRM process was in fact heavily politicized so that IWRM could mean anything to anyone; it is therefore a matter of value judgment that can easily be taken advantage of by political interests, as in the promotion of Western ideas to developing countries. For instance, official development assistance is often tied to the condition that it be used to implement IWRM-based programmes.

One of the most interesting things about this definition is that there is an emphasis on four important concepts: process, coordination, sustainability, and equity. These words mean different things to different people in different political cultures and settings. They are socially and historically constructed once it comes to turning IWRM principles into concrete actions. For instance, a fisherman in a small Turkish village would not think the least about how many fish need to be in its local river when they are hungry. Even though he knows fish are good for the river, the amount he takes is dependent on how hungry he is rather than the ecological quality of the river. Communicating sustainability and ecology is not easy where socio-economic problems are urgent and the level of wealth does not allow governments and their water bureaucracies to implement green policies. So, the IWRM definition implies to some extent that these concepts can co-exist. For instance, it is possible to be equitable and sustainable despite meanings and perceptions of sustainability and equity varying greatly based on the political and cultural tradition of individual countries. The GWP definition is about the ideal (Mitchell 1986; Snellen and Schrevel 2004),[10] not necessarily about the practical where political cultures differ to a great extent.[11]

3.3 Problematic Implications of IWRM

IWRM is potentially impractical and uncritically rehashes old ideas. There are serious objections to the concept as lacking content simply because integration can be interpreted in a variety of ways. There are various interpretations of IWRM and they are highly disorganised (Jeffrey and Gearey 2006). The conversion of IWRM principles into sound practices within a managed framework is not practical in all

[10] The search of integration can be meant at any level but the main idea of integration is to share and coordinate the values and various interests of water management and its stakeholders. See: Mitchell (1986, pg. 13). However for the implementation discussion, there is the question of whether IWRM refers to an 'ideal' or 'operational' word. See: Snellen and Schrevel, *IWRM*, 12.

[11] For various cultural examples of water management and the concepts of water management see: Olli Varis (2005, pg. 2), Baker (2006), Dubreuil (2006), Cortner and Moote (1999), Thatte (2005), Varis (2005).

cases (Biswas 2004).[12] This is because IWRM focuses mainly on "what should be done" (Jeffrey and Gearey 2006) instead of suggesting how to reconcile multiple interests in water management. This is difficult and in some cases simply impossible. For instance, IWRM advocates negotiation of these interests and arrangement of how they might be coordinated; however, some argue that the more stakeholders involved, the more problems there are (Rhoades 2000).

In addition, water policy-making is political. The most persuasive arguments are sometimes those that represent the opinions of the elites rather than those of the masses. The most sensible option might be excluded from the policy process through the discourse of a common good by these bureaucratic elites (Allan 2003). Policy-making is centred on immediate interests rather than the long-term policy options which would be able to strengthen concepts such as social equity, economic efficiency and environmental concerns (Allan 2003). Water policy outcomes could reflect the wider interests of private companies, international aid institutions, the ever-lasting bureaucratic imposition of top-down strategies (Molle 2006) or conflicting interests of political rivals (Mitchell 2006; Rhoades 2000).[13]

The river basin is a spatial and physical unit. This unit does not exactly match economic, social, cultural, and indigenous boundaries/scales. River basins may only be a good unit for a limited range of social functions; water users and managers need to be flexible and pragmatic about a variety of arrangements for addressing the most effective of a range of purposes in a river basin. If water managers would like to integrate all activities undertaken in the river basin, this may deepen our problems about integration because concepts such as urban planning, tourism, and architecture are not usually coterminous with river basins (Molle 2006). Despite the claim that IWRM is best achieved at the basin scale (Davis and Threlfall 2006), catchments usually do not accurately represent 'place attachment' and communities of interest or the ecological resource base (Brunckhorst and Reeve 2006, p. 269). The scale issue not only challenges IWRM in terms of its boundaries but also questions the financial feasibility of IWRM, if integration means a great scale that requires enormous cost to coordinate (Mitchell 1990). For wealthy countries this might not be so much of a challenge but for developing and underdeveloped countries it is an enormous impediment to executing integration.

Another major problem for IWRM's practicality is that watershed designations and boundaries rarely coincide with pre-existing political demarcations (Woolley and McGinnis 1999). River management transcends national borders. Hence, the national adoption of IWRM has implications for land management. Even countries

[12] Judging by the number of national integrated action plans, sound IWRM implementation is weak to date because of the fragmented and undemocratic water administration process and heavily centralized, technical perspective to water. See: International Water Association/United Nations Environmental Programme (2002, pg. 12).

[13] For instance, the most participatory watershed projects are the examples of "local maneuvering between political rivals who are using the project as a stage upon which to build alliances, garner resources, and ultimately unseat the archenemy" (See: Rhoades, *The Participatory Multipurpose Watershed Project*, 339).

that have river basin authorities reject the integrative approach at the international level as it has major repercussions for national sovereignty (Teclaff 1967).

IWRM not only requires a crucial change in values and perceptions but also necessitates a political modification (Snellen and Schrevel 2004). Adopting a watershed approach changes our comprehension of natural systems and our interaction by requiring high-level social and political shifts in mindsets (Barham 2001). Integration is political and management is political. As Allan (2003, pg. 2) argues:

> Policy is made by agents and policy entrepreneurs operating in complex local discourses, usually at the national level, rather than in generic discourses informed by principles developed in international science.

A new paradigm that envisages a fundamental change towards sustainable development may include a movement away from the previous political setting and may necessitate a new political understanding of the situation (Scrase and Sheate 2002). But obviously what is more important here is to comprehend the decisions that have been made before. The outcomes of past decisions are fundamental since the system is a product of the retrospective decisions, and a historical evaluation of the current understanding (Scrase and Sheate 2002).

Another concern for the transition of political ideas may involve the relationship between central and local government as these bodies are the legislative powers forming the water regulations. Therefore, centralization and decentralization traditions make a considerable difference to conceptual interpretations of IWRM. In the past, some Western countries preferred strong centralized bureaucracy (Barraqué 2003) in their water management (such as France and Spain) whilst some others (such as New Zealand) started with decentralized systems. However, now they consider decentralising and centralising, respectively. There is a similar delineation between private versus public possession of water services. While privatization has been tried and found unsuccessful in a number of countries such as Bolivia; on the other hand, England's water services are managed under a private system. Deep-rooted traditions and practices as well as past decisions form a political culture of resource management. The way water bureaucracies formulate water policy matters to a great extent for how they will perceive the future.

IWRM remains a vague concept when these factors are considered. Some (such as the World Water Council) think the credibility of integrated approaches is high and they call upon governments to set up an integrated model (Philippus and Warner 2002) while some others argue that 'integrated' is full of value judgments meaning different things to different political cultures that may eventually not have any meaning in real world practice (Millington et al. 2000). For instance, although some countries, such as Turkey and Spain, have the correct institutional set-up, such as hydraulic basin organisations, this does not necessarily mean that these organisations care about citizen participation when water management is practiced. How IWRM is interpreted can affect its implementation. The matter of implementation is important in the process of incorporating the concept into water legislation. IWRM implementation depends heavily on the existence of democracy (Ashton et al. 2006). Being a mature democracy or a fledgling one does matter when practicing

IWRM (Ashton et al. 2006). As opposed to less mature democracies, mature democracies have the financial capability and adequate infrastructure that allows them to handle the resource demands of implementing sustainable development goals.

The social and political relations in a specific culture and society inform how IWRM is used and interpreted (Mostert 2006). If water managers do not understand these relationships and their historical and social background, and only implement IWRM on an engineering basis then the paradigm cannot go beyond being a procedure rather than a genuine practice. So for instance, the nature of water management problems faced in northern Europe is not the same as those faced by southern Europe (and how these problems have been handled within the Southern political cultures; Molle 2006). Disconnection between the political economies of Northern and Southern Europe negatively affects the successful implementation of IWRM. Northern European countries experimented with a number of different water management paradigms and abandoned the full exploitation of water resources after the late 1970s. However, Southern European countries had fewer options because they were not as wealthy as their Northern counterparts and were unable to deal flexibly with water scarcity simply by redistribution of resources in their economies (Allan 2003).

In summary, the concept of integration, in other words coordinating different aspects of river basin development activities, evolved from multi-purpose river utilization and control projects of the Western world. This firstly meant that when the Western world started to see the negative environmental impacts of large-scale water works, they began to think of them in a different paradigm, instead of an economic production perspective. At the same time, Southern countries were catching up as they had been influenced by ideas imported from the Northern world. This often resulted in river basin development being pursued in an incomplete manner in the Southern world.

Secondly, engineers are the fundamental human element in water management and are pivotal to defining the politics and policies of water development mostly because they try to find an answer to what is essentially a socio-economic question of human development and welfare. Therefore, the technical knowledge that facilitated the evolution of river basin utilization and control progress under the domination of natural science and engineering. This knowledge was not publicly debated due to its technical aspects. It resulted in certain disciplines being privileged in shaping the concepts of water development. Engineers shaped the policies that affected socio-economic basins and most importantly they did this under certain political agendas that had been foisted upon them. So technical expertise was used in a way that suited the political discourse of the day and the cost-benefit analysis of realizing river basin projects limited the participation and contribution of socio-economic actors in the basin.

Thirdly, IWRM has been defined in this background and then has its own constructs, for instance it is an old concept although there is an ongoing international campaign that it is new. It is introduced as if it is new without acknowledging how it originally evolved as a Northern concept that is out of date and forgetting that the privileged knowledge set of engineering cannot be easily removed from water management.

3.4 Example of IWRM: The EU Water Framework Directive

The EU announced its water policy framework in 2000 after long discussions and confrontations among the member states (Kaika and Page 2003).[14] This legislative framework, called the EU Water Framework Directive (WFD; Council Directive 2000), is regarded as the most significant piece of environmental legislation ever produced in the EU with its ambitious targets, as well as an innovative and holistic approach to water resource management (Joseffson and Baaner 2011; Howarth 2009). Although it does not explicitly use the phrase 'IWRM', it has been called holistic because the framework presented in the Directive is inspired by IWRM principles and has adopted important components of IWRM, such as public participation, the requirement to set up integrated river basin management plans, and the emphasis on achieving targets for good status in ecological, chemical, biological water quality in European rivers.

The idea behind the WFD first came from the European Parliament Environment Committee and the Council of Environment Ministers in the mid-1990s looking to establish a water policy that encompassed new global issues around water management and scarcity (Kaika and Page 2003). Modern water management confronted pluralistic, complex and uncertain issues, and integrated approaches were considered to be the remedy to these new global water problems (van der Brugge and Rotmans 2007). This was exactly what the European Commission (EC) had been asked to do, to look into the possibilities of integrating and rationalizing the existing water legislation and to generally increase the public's awareness and knowledge as it related to new problems of water management (Kaika and Page 2003). The initiative was not new as the Commission attempted to harmonize water policy in the water management space in the mid-1970s, considering issues such as drinking water, nitrate pollution from agriculture, and water quality of various water bodies as well as urban wastewater (de Bruin et al. 2005).

However, there was clear disagreement among the member states on a number of legislative and political issues before they could make harmonization work. There was widespread and increasing activism amongst citizens regarding cleaner rivers, lakes, groundwater and beaches (de Bruin et al. 2005). On the one hand, the demand was for better water quality; on the other, was the Commission's desire to consolidate several fragmented and poorly implemented water policy instruments into one major tool by setting up a coherent European water policy. This catalyzed the idea behind the Directive that came into force in 2000 (Louka 2008). The Directive's vision is to warrant the good quality of all waters in Europe and this is to be done with an IWRM-driven model that takes basin-level river planning as the main framework (Quevauviller (2010). While it does not explicitly refer to IWRM, considering the river basin management process explained in the Directive and the jargon throughout the legislation, it is clear that IWRM is the main foundation (Louka 2008).

[14] See: Ralf Boshcek (2006).

The WFD advocates basin-scale water management: it requires member states to geographically establish River Basin Districts (RBDs) and in the case of transboundary waters, set up international river basin districts (IRBDs) to manage water resources (de Bruin et al. 2005). The whole-of-basin approach is pivotal to the Directive as member states are required to use district level knowledge to make River Basin Management Plans (RBMPs) to consider river basin issues in a holistic manner, such as considering water quality as affected by and related to a sufficient quantity of water being left in the river. RBD level institutionalization is considered to provide integration of activities of basin-wide institutions and coordination of water-related transactions (Commission of the European Communities 2007). Secondly, the Directive not only has a strong sustainability focus both regarding water as a valuable resource for ecosystems and a heritage for protection, but also recognizes its economic value and human health context. It does promote cost recovery, and effective pricing mechanisms (such as, polluter and user pays) to be able to guard the silent interests of ecosystems and natural capital (Commission of the European Communities 2007; de Bruin et al. 2005). Thirdly, stakeholder engagement and public participation 'at the lowest appropriate level' is highlighted in the preamble of the Directive which is essential to RBMP arrangements. The WFD requires member states to base their water management actions on important elements of public participation, such as public information, consultation and active involvement (De Stefano 2010).

The integration mentioned in the WFD is not limited to spatial river basin planning. Sectoral integration in water use, such as domestic, industrial, hydropower, and agriculture, is also a major component of the WFD. The reason for adding sectoral integration into the equation is that other common EC policies such as agriculture, fisheries, transport and energy rely on how water is governed and managed.

The Directive aspires to set an example for member states' water legislation such as better streamlining existing statutory instruments. Prior to the WFD, EU water legislation represented some twelve Directives which were fragmented and technocratic in nature (Commission of the European Communities 2007; Mostert 2003).[15] The WFD repeals previous Directives and integrates their implementation to WFD (de Bruin et al. 2005; Keessen et al. 2010; Mostert 2003; Quevauviller 2010).[16]

[15] Some of the most important old 'daughter' Directives, just to give an idea, are: Bathing Directive, Urban Waste Water Treatment Directive, Nitrates Directive and Drinking Directive. See: Mostert (2003, pg. 524). The complete and detailed list of these Directives can be found in here.

[16] The ultimate aim of the WFD is to achieve 'good chemical and ecological status' in European surface waters and 'good chemical and quantitative status for groundwater'. These bring environmental requirements around ecological and chemical objectives such as salinity and the concentration of dangerous substances. While the chemical objectives are set by the EU, ecological objectives are set by the member states. See: Andrea M. Keessen et al. 2010. These objectives need to be placed in the member states' River Basin Management Plans (RBMPs) and how they will be reached also needs to be identified in the Programme of Measures (PoMs) which then leads to compliance of these objectives within 15 years of the Directive entering into force which is currently 2015. See Table A.5 in Appendix: it gives an account of these deadlines specifically. Also see: Mostert 2003. The Directive is required to be transposed into member country legislations by 2003, which then would lead to the identification of spatial river districts and relevant administrative

The Directive requires implementation at multiple levels; the EC level, national and river basin levels in addition to the crosscutting sectoral policy implementation. At first glance, all requirements appear to be procedural and with its planning focus, WFD is believed to cater for organising the processes and making sure implementation is proceeding in the right direction. However, the particular focus on procedure results in more room for flexibility as regards to policy discretion by member states in a number of areas, such as setting environmental objectives, designation and criteria for water bodies, the use of exemptions and how environmental damage and deterioration is defined (Keessen et al. 2010).

The WFD does not really provide for the detailed explanation and the setting of these obligations for member states because it is formulated and written deliberately as a flexible legislation approaching ambitious environmental objectives with flexible means. This is to ease the adoption by different governments and their various political cultures and water institutions as well as to ensure that they implement river basin based planning (Commission of the European Communities 2007). While this sounds theoretically ideal, in practice good water status targets become ambitious, as procedural obligations under the Directive are not explained. Legal and institutional definitions of terms and concepts such as 'good status' and 'environmental values' are completely discretionary. Equally the Directive does not give any guidance on how to incorporate the historical systems of national water bureaucracies in member states before the development of the EU.

3.5 Caveats of the Directive

Eleven years after adoption, the Directive has been reviewed and widely debated both regarding its due dates for implementation and its caveats more generally. The WFD's ability to provide for collaboration between the institutions within the river basin and other administrative authorities such as for agriculture and land use has long been questioned. There is a possibility that while trying to correct for spatial misfit of a basin district's boundaries, the Directive might end up isolating water management from land use planning, which may become a problematic issue for the implementation of WFD (Louka 2008).

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authorities. By 2009, the identification of RBDs and the surveys undertaken to identify the issues in these districts then would inform the RBMPs. In the meantime, member countries are required to set up their monitoring network as well as their public participation mechanisms to be able to inform on the finalised RBMPs. Then upon completing these plans, they must get on to implementing their adopted PoMs in meeting the chemical and ecological objectives by 2015. See: De Bruin et al. 2005.Throughout this process, member countries are required to inform the EC regarding their progress and results, as well as regularly report and update the statuses of the water bodies that they are required to register as protected areas. See: Quevauviller (2010, pg. 181–182). The 2015 target for achieving good status for European waters has been found ambitious for some given the historical longitude that environmental legislation has on the European continent since the 1970s. See: Keessen et al. 2010, pg. 198.

Studies of European Union countries raised questions regarding the type of public participation required by the Directive. At the beginning of the implementation process, public participation in water management was poor or very poor, especially in Southern and Eastern European countries. In particular, the review conducted by De Stefano showed that there is a lack of proactive information provided to non-governmental stakeholders. The study also showed that, in the decision-making process, the quality of active involvement of interested parties was poor (De Stefano 2010).

Many legal advisors and law scholars have contested the wording of the Directive. For some, it is too vague and despite the Directive calling for legally binding obligations, the wording is irrelevant in some instances (for example, the term 'good status'). Howarth argues that "if good status is an aim rather than a requirement of the Directive, then a member state would not be in breach if it failed to realize good status within the deadline, providing it took necessary actions, this makes timely achievement of good status legally irrelevant" (Howarth 2009). Another example of an ambiguous legal concept in the Directive is the much disputed cost-recovery principle, whereby water projects recuperate their expenses through payment mechanisms. Unnerstall (2007) argues that the WFD previously tried to define precisely the boundaries of cost-recovery but because of the criticism it received, any member state could claim to be using their own interpretation of the concept. This in turn led to inconsistent definitions of technical concepts, such as cost-recovery in member countries and resulted in the incomplete implementation of IWRM, since technical concepts such as cost-recovery are fundamental principles. Some also argue that member states are inclined in every way to make the best use of available exemptions under the WFD (Keeseen et al. 2010).[17] It is also commonly argued that the WFD is weak in terms of addressing water quantity issues which is a fundamental flaw especially when integrating other aspects of water management such as climate change is considered (Brugge and Rotmans 2007).[18]

International river districts cover 60 % of the EU territory. It is argued by the EC that the coordination as it relates to WFD implementation will be a challenge (Commission of the European Communities 2007). Specifically, the efforts to meet the environmental objectives depend heavily on non-member states and their efforts to meet the targets. For instance, the EC believed that cooperation between Baltic EU member states and Russia, Belarus and Ukraine or the cooperation between Bulgaria, Greece and Turkey would be much more difficult due to their existing systems (Commission of the European Communities 2007). The EC's report in

[17] These are the extension deadlines from 2015 up to 2027. They cover things such as allowing additional deterioration from new economic development, trying to lower the protection targets for ecological objectives. Keessen et al. (2010, pg. 208–209) give examples from some of the member countries such as Germany, Denmark, Netherlands, and France and their ongoing positive attitude towards agriculture friendly policies, which ultimately could bring the implementation of the environmental objectives down.

[18] The omission of flows (hydrological interactions, surface and groundwater and timing of high and low flows) with regard to ecological protection in the WFD is argued to be creating a gap as well.

2007 on WFD implementation shows that the legal transposition of the Directive into national law has been poor and in many cases has been inadequate (Commission of the European Communities 2007). The problem behind this is complex: member states have insufficient data to assess the risks in their water bodies and some are not committed to provide the information and data, and for some countries this is a chronic and serious non-compliance which delays both procedures and reporting. All of these factors reflect how water bureaucracies function and what they understand from water policy-making (what they include and prioritize) as well as how they govern water resources, whether they do this under a centralized system where the central state plays a major role, or under a decentralized system where the powers of decision making are delegated to local governments. They will naturally execute the IWRM in a range of ways depending on what they understand from water management and how they interpret relative concepts such as 'good water status', 'environmental degradation', 'economic development', 'equity', and 'sustainability'.

To implement the Directive, bureaucratic institutions are needed. This means the enforceability of the Directive heavily depends on member countries' institutions and their political culture. The implementation of WFD is the socio-economic and historical sum of member countries' interpretations of several concepts and everyday actions on anything related to their water management as well as the level of democracy allowed in debating water management issues widely and meaningfully. For instance, WFD has been criticised by scholars for overambitious objectives, insufficient stringency in its legal formulation and is too generous in the discretion that it gives to member states in practice (Brugge and Rotmans 2007; Keessen et al. 2010; Unnerstall 2007). Bureaucratic culture steers the ways in which environmental decisions are taken and how trade-offs are carried out. Environmental standards and measures as well as how countries go about complying with these standards are not only the reflection of cultural value judgments, but also their applications depend on local society (Unnerstall 2007). For instance, how one defines 'environmental damage' and 'the polluter' as well as defining that the polluter is responsible for the environmental damage is dependent on the political culture of the society which the definition taking place. There are times when these discussions are relevant depending on how wealthy the country is and how much it cares about the environment. If Swedish farmers are environmentally friendly and collaborative, it is highly likely that they might still comply with higher environmental standards no matter how accurately these standards represent the environmental damage they create. On the other hand, a Bulgarian farmer might suffer by complying at even a very low environmental standard, because there are no mechanisms to influence compliance to environmental standards or that make environmental protection meaningful. The Directive becomes a moot point when these linkages between legislation and everyday practices are not made.

Member state water bureaucracies' perception of water management, as well as how they formulate water policy, mostly depends upon what sort of political culture and under what historical foundations their bureaucracies operate. More importantly, it depends upon what sort of reaction they get from society and the public regarding their water management practices. If they are operating within a paternalistic

bureaucratic culture, they might be more interested in approaches that assure the state provides water services and knows most of the time what is best for society without asking much about how the public have reacted to their particular view of policy. In that sense, they are disengaged from public participation because the state's priorities did not include feedback from the public. On the other hand, if it is more of a plural and transparent political culture, participatory water management might be compulsory (De Stefano 2010).[19]

In terms of physical scales for instance, if Denmark only has groundwater, water management would mean managing only groundwater. All budget and scientific effort would go into understanding groundwater resources. Since groundwater resources are almost non-renewable, Danish bureaucracy and political tradition might be more protective over water resources and perhaps might keep away from a discourse of economic production that could threaten the sustainability of these resources. This could be clearly different to some other country, say England. If England has more floods than droughts it makes sense that English water management would prioritize draining water. The priority of water bureaucracy would be much more occupied with getting rid of excess water and the impacts of inundation and equally it would not have much idea about how to manage a drought. These political cultures indicate that as Denmark does not need to worry about how to manage surface water resources, equally England does not have to worry about droughts of a similar magnitude and frequency of those faced by southern European countries.

Given its geography, if France for instance does not have any transboundary waters, it would be difficult for France to understand a country which has transboundary water resources and interests. If Sweden and the Netherlands have more environmentally aware farmers, and perhaps more informed water users, it would be easier for bureaucracy to regulate agricultural inputs to control water pollution into the rivers. On the other hand, compared to Spain where farmers use a strong production discourse and heavily lobby their government to subsidize agriculture, they would be less interested in environmental outcomes simply because Spain is poorer than Sweden and the Netherlands, perhaps needing more economic development compared to these countries. Spain also has the type of political culture that allows nepotistic relationships where the unreasonable demands of a certain

[19] For instance, De Stefano's (2010) work about public participation in member states regarding the Directive's implementation is rather interesting. Among its findings, one of the most striking points is the division between countries in executing general bureaucratic practices, such as easy access to background documents. It is noted that while in some cases this did not matter that much, in some countries their access has been time-consuming and heavily bureaucratic to a level that discourages relevant parties to seek that information and filing a request in the first place. The transparency of processes regarding the definition and approval of specific water infrastructure projects might have political connotations and interests behind it. The study proved that in some 60 % of the surveyed EU countries published responses to relevant parties before even important decisions took place, therefore rendered the whole participation process untrustworthy and meaningless under the WFD definition. Again, the participation from economic sectors are selected their opinions to be heard, while more alternative, non-governmental and academic institutions have not sought much and they have been informed just because they followed lengthy legal procedures.

political group could enable them to get away with irrational policy propositions becoming realized despite the fact the majority might be against that result. These examples show that the implementation of IWRM is not only about water management or technical engineering issues that are easy to solve by just simply looking at solutions from mechanical perspectives but about democracy, society's environmental values and responsibilities, as much as about how they have come to be that way. To be able to effectively implement WFD and truly apply IWRM, one needs to think about these social constructions of bureaucracies and to think whether is there any room for such textbook implementation of IWRM.

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Chapter 4
Political Culture of Turkish Water Bureaucracy

Our state is the strongest state. For you are trying to cause its collapse from without, and we from within, but still it does not collapse.

From Fuad Pasha to a European Statesman
(Davison 1964, pg. 103)

The result of a half-baked Frank education is depressing. His idea of reform was the regular payment of Kaimakams, the provision of free illustrated newspapers for Kaimakams to read, the building of railways for Kaimakams to travel by, and eventually the restoration of all Kaimakams to Constantinople, where they would be given places as highly-paid deputies in a Parliament of Kaimakams, who would collect and control the expenditure.

Mark Sykes, his observations of an Ottoman Kaimakam
(Rustow 1973, pg. 119)

What must be learned about democracy is a matter of attitude and feeling, and this is harder to learn.

Gabriel Almond and Sidney Verba (1963, pg. 5)
in 'The Civic Culture'

This chapter shows the importance of the impact that Turkish political culture has on the Turkish water bureaucracy in terms of meeting the requirements of EU accession. Turkish water bureaucracy has a peculiar bureaucratic culture that stems from the socio-historical foundations of the Turkish nation state. There is a unique cultural background that feeds into how water bureaucracy shapes policy and the implementation of its decisions.

To date, the actions and decisions of Turkish water bureaucracy have been based on large flagship water development projects that rely on paternalistic transactions of civil engineering. The dominance of technical engineering discourse in the water bureaucracy married well with governments' populist policies of using water as a key to national economic development, which helped those governments to win

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_4

votes. The engineering tradition created a perception that water management meant the construction of large scale water projects but it seldom brought a perception of water management where a transparent, informed, participatory and decentralised water governance could be achieved by respecting the integration of river basin, water and land resources along with ensuring the integration of water governance functions and legislation. A lack of this mentality consolidated a distinct institutional culture in water bureaucracy where technical water development and state planning lived in harmony with a nascent civil society where little discussion on policies of managing water resources occurred.

The chapter argues that there are entrenched attitudes and practices, in other words socially constructed practices of Turkish politics and bureaucracy, arising out of the historical and social environment that incline Turkey toward the authoritarian, centralised, technical engineering approach to water management. This political culture was deeply embedded in Ottoman practices and continued into the early Republic as it became secular and more technical. It continued in different forms after the Turkish Republic entered into multi-party politics post World War II. It became more authoritative and stranded with military interventions between 1960s and early 1980s and becoming more liberalised economically after the 1990s and by ending the 1990s yet with another military coup. Political culture faced significant change and entered into a series of democratisation efforts mostly catalysed by the EU process since late 1990s up until the present. Today it is reflected in the current political culture and also appears in the current AKP (Turkish: *Adalet ve Kalkinma Partisi*, Justice and Development Party) government's rule, and is re-transforming into a more conservative, centre-right neo-Ottoman *ummatist*[1] politics, under the name of mild Islamism.

Despite the changes that have occurred in the last two decades, this political culture still does not fit well with the consolidated democracy that the EU culture is based on and the implications for water management in Turkey are immense. This chapter demonstrates that the impediments of political culture institutionally prevent the execution of IWRM and explains how the implementation of the EU's Water Framework Directive will be troublesome. The first section of the chapter demonstrates the main concepts of Ottoman public administration that heavily influenced the national traits of the Turkish Republic. Turkish political culture encompasses Ottoman ingredients of technocratic elitism, Islamic ummatism, and paternalism. The second part explains the political culture of the water bureaucracy affected by this historical legacy. This section aims to give an overall view of the conflicts and mentality of the water bureaucracy and uses interview material to demonstrate this deep-seated culture. The last section describes the outlooks of the interviewees and the structure of Turkish water bureaucracy and its compatibility with IWRM and the EU.

A constructionist analysis of the political culture of Turkish water bureaucracy demonstrates that in terms of the management of water resources, Turkish state uses

[1] Ummatism means that subjects of the Ottoman Empire were servants of Allah first and the Sultan second.

a paternalistic 'language' where deciding what is best for Turkish citizens and not leaving much room for its traditionally accepted views to be challenged. This also becomes elevated when majority of population does not question the situation and is not suspicious of the way things are. Even when these suspicions are resurfaced by some, the political system works best with those who like to contain these opposite views before any active agenda setting occurs.

4.1 Turkish Political Culture

The Ottoman Empire had a traditional guardian bureaucracy that shaped a paternalistic view of the state for decades (Heper 1976). The Ottoman paternalistic view has not disappeared and is still embedded in modern Turkey's bureaucratic institutions and politics. The Turkish state inherited an administrative structure and personnel from the Empire, but the most important of the inherited heirlooms were the attitudes (Roos and Roos Jr 1968). Culture has an impact on the motivations of institutions and individuals choosing one particular institutional arrangement over another. The social and historical context creates and shapes organisations and its individuals which eventually causes them to act in a certain way in a given time and space (Wildavsky 1987).

4.1.1 Ottoman-Early Republic Political Culture

Today's water bureaucracy cannot be explained without knowing that early twentieth century Turkey was a diffuse, poly-ethnic, multilingual society with no sense of national identity (Ward and Rustow 1964). Anatolia of the time had a fluid class system, a low level of literacy and education as well as a despotic government (Ward and Rustow 1964). Its bureaucratic polity was patrimonial (Mardin 1969; Carkoglu and Kalaycioglu 2009; Grigoriadis 2009) and aimed at the supply of services for fast economic growth in the early years of the Turkish Republic (Heper and Sancar 1998). These main components of Turkish political culture affected attitudes and traits in Turkish water bureaucracy today.

One of the most important characteristics of Turkish political culture is the Ottoman Empire's religious identity impacting upon and arranging every area of socio-economic life. The vast majority of the Ottoman citizenry were Muslim, so Turkish society is greatly influenced by Islam in its socio-economic make-up (Yavuz 2009). Islam is associated with characteristics such as fatalism, the satisfaction with things as they are, the absence of initiative, the lack of persistence in the execution of any enterprise, the lack of that stimulus necessary for success (Carkoglu and Kalaycioglu 2009; Chambers 1921). Islam is not just a religion; it is a fusion of law and ethics meshed with religious values (Ergul 2012; Rustow 1965). Because of

this, it covers transactions of government, polity and society in its conception (Ben-Dor 1977) and has a regulatory socio-political aspect in the cultural practices of community life so is more politicized than other religions (Jeffery 1942).

Considering this, Islam is also an ummatist (*ümmetçi*) religion. This means the subjects of the Empire are amenable and compliant servants of Allah in the first place and the Sultan in the second (Ergul 2012), instead of being regarded as citizens who have human and constitutional rights. This matched well with the guardianship regimes of the Ottoman Empire which hindered the healthy and organic development of a civil society (Biber 2009; Karaman and Aras 2000). Ottoman society was compartmentalised between the 'ruled (periphery peasant masses)' and the 'ruler (centre educated elite)', where the centre never allowed another class to challenge its power (Carkoglu and Kalaycioglu 2009; Ergul 2012). Ummatism long hindered the construction of a citizenship after the collapse of the Empire and during the formation of the Turkish nation state. It was difficult to detach a vast Muslim population from Islam's perception of governance based on faith, dynasty, and Islamic values.[2] This became deeply embedded in current Turkish society in a way that reinforced the national characteristics such as easily accepting authority and its decisions, having low expectations from politics and obeying rules submissively with minimal questioning. Maintaining such traits mutually enforced the idea of authority where citizens should be looked after by a paternal state. Islamic and elitist education systems (Frey 1964; Yavuz 2009) in the Empire further consolidated this paternalism by handing privileges to a group of technical people where accessing education was difficult unless one was from the army, bureaucracy or the clergy. This meant a deep gap between the illiterate majority rural population and the well-educated minority ruling elite (Ergul 2012; Frey 1964). The main reason was that the Empire never accepted responsibility for the basic education of its subjects until the late Ottoman era when reforms were being made, and therefore had no formal public education system (Frey 1964).

In traditional Ottoman society, this elitism constructed an apathetic political culture. Rural peasants were deliberately denied the opportunity to express opinions and challenge authority as the elitist minority believed it knew the best for them (Grigoriadis 2009; Toros 2007). This compartmentalised Ottoman society where the

[2] Under Islamic rules, clerics (Ulema) were given mass privileges regarding the practice of justice and education. They were powerful in significantly influencing cultural and value systems of the society. This means Islam brings strict rules that are informed by the Quran and its clerics' interpretations of rights and responsibilities. Although in essence the Quran's philosophy is about fairness and justice being prioritised among Allah's kullar, clerics' interpretations of various areas of social life are mostly allowed, with a lot of judgment involved, and there was no space for challenge. This turned Ottoman subjects to religion and the Quran, using Islamic values to explain every aspect of their daily life. In addition to that, a lack of general education further catalysed conservatism and created a national trait/social construction around citizens as individuals of the society.

man in the street had few manners with no education (Mardin 1969).[3] Intellectual elites were regarded as the only agents who were capable of pondering the citizens' problems. One of the results of this was that an Ottoman citizenry was never passed on to modern Turkey, a civil society essentially standing autonomously before the state (Dodd 1992; Karaman and Aras 2000; Ozbek 2007). The populace largely remained uninterested in politics and it was difficult to bring socio-economic problems to the attention of Ottoman peoples (Heper and Yildirim 2011; Payaslioglu 1964). This was partly to do with the fact that Ottoman leaders did not have any sense of solidarity with their subjects due to the heterogeneous population; it was not a coherent society and remained largely accepting of authoritarian policies (Biber 2009; Davison 1964; Payaslioglu 1964). Such an attitude left the elitist state's transactions in Ottoman society unaccounted for and led state elites to proceed with whatever they pleased. For instance, the elites proceeded with the imitation of Western institutions and implemented modern reforms, but these institutions and reforms were a façade and did not fundamentally change the structures of the Ottoman state. The reason that new reforms and institutions were considered was the ongoing pressures from Western powers to improve the living standards of non-Muslims.[4] There was also the realisation by the elites that modernism was needed in order to compete with Western powers. However, Ottoman perspectives of Western institutions and reform were top-down in the sense that Ottoman elites never fully understood the underpinning socio-economic forces in Ottoman society that could change traditional institutions into modern ones.

Political reform always meant the replacement of traditional institutions with Western institutions, and with European ones in particular. The way that Ottomans perceived European modernism was that it would be easy to achieve if sufficient skills and intelligence were available and this mindset usually correlated skills and intelligence to ruling elites (Heper and Keyman 1998). However, modernism required a mindset change in the social and traditional aspects of Ottoman society. For instance, a series of reforms were undertaken under the label of Tanzimat.[5] A new centralized provincial system (Chambers 1964) (1864 Law of Provinces, Turkish: *Vilayetler Yasasi*) was borrowed from the French (Deringil 2007; Heper 2005; Roos

[3] Note: the Ottoman Empire did not have the influential groups as appeared in the Western world such as, aristocracy that balanced the state in its relations with civil society. The state remained omnipresent before anything else. *The peripheral peoples such as Turks* (*etrak in Ottoman*), *were seen as different and distant from the Ottoman state. The intellectual and urbanized people had prejudices about countrymen who dealt mainly with agriculture*, *and the Turks were among all other countrymen of Anatolia*. Source: Ergul 2012, pg. 635.

[4] Western powers put pressure on late Ottoman Sultans for them to bestow civil rights on their people living in the Ottoman land. A good example is the water supply of Istanbul city. While non-Muslim groups and wealthy Ottomans were prioritised for 'equitable' domestic water distribution in the city, laymen were not considered in the same equation. Source: Dinckal (2008).

[5] Tanzimat is the Ottoman name of the first reform package to make the Empire modern. Tanzimat was based on: *the secularisation of religious laws and implementation of new administrative*, *educational and financial policies for reorganising the state structure in conformity with European models*. Source: Icduygu et al. (1999).

and Roos Jr 1968).[6] This system introduced a hierarchical mechanism where a governor (Turkish: *Vali*, the highest official in a province) gained significant power as an actor representing central government, this eroded local autonomy and was to the advantage of central government (Chambers 1964). The provincial organisation never gained full autonomy but was told to be loyal to the central structure, the omnipotent state (Grigoriadis 2009). Central government's trust of regional areas remained low leading to a strong bureaucratic and elitist centralism in modern Turkey (Yavuz 2009). This also caused patronage relationships and favouritism to blossom.

Nearing its end, the Empire's difficulty in establishing a modern citizenry was evident (Rustow 1964). However, Ottoman peoples only link to political affairs was through notables (Turkish: *Ayanlar*). They were rich enough to have influence on provincial authorities and had privileged relationships with the Ottoman administration in the realisation of their interests.[7] They became influential and popular by appearing as the protectors of laymen against central government (Grigoriadis 2009; Inalcik 1964). They were given lease rights of vast areas of agricultural state land on behalf of the state and in return the Ottoman state gained access to provincial information and politics. This helped the Ottoman state become more elitist and oppressive, while notables secured their financial interests, kept and passed on their land leasing rights (Inalcik 1964).

Modern Turkey not only inherited a strong authoritarian and centralist bureaucracy but also the concept of favouritism (Turkish: *kadrolaşma*. Adaman 2011; Onar 2007). An Ottoman tradition of placing someone who was skilful and smart enough to be a bureaucrat in important roles aimed to place bright brains at the Palace so that skill and intelligence could effectively be used in the Palace. Favouritism was used as an effective means to easily realise an incumbent government's policies by unfairly appointing staff who supported the ruling party's ethos and ideology. All Turkish governments brought their key people to key positions so that they did not face any opposition while implementing their policies.[8] One might say that this is a common thread in many country's political life, but what made the situation in Turkey unique was that it shuffled priorities, consumed limited resources, lost experienced staff and institutional knowledge, further catalysed non transparent

[6] A high level Ottoman official, Mustapha Rashid Pasha set up the occasion for borrowing from the administrative French system to set up a centralized provincial administration. It was borrowed however yet remained a peculiar Ottoman version of the French system and compromised between central and peripheral administrations. Therefore, it did not look like anything but a confused system and missed the entire point of modernist institutions.

[7] Notables pretended that they cared about the laymen as this created a legitimate channel to convince officials of their self-interest, which was mainly economic. However, they played both ways, benefiting themselves the most and not creating a genuine civil society, nor did they reduce the distance between the rural local population and the urban elite administration.

[8] *Clientelism played a large role in recruitment to positions in respectively, central government and municipalities. A wide body of theoretical literature suggests, almost unanimously, that interaction between groups of people and the Turkish state is mostly being conducted through the use of patronage links*. Adaman (2011, pg. 317) calls this 'clientelist corruption' in his work.

processes and cowed public servants who became afraid that dissent would jeopardize their position. The promotion of patronage undermines law enforcement because for these relationships to work effectively authorities must distribute favours to their clientele (Kalaycioglu 2001). The existence of favouritism leads to public mistrust where society eventually becomes hesitant and indifferent to use the normal channels of citizenship in their relationships with public institutions (Kardam and Cengiz 2011).

The political culture developed under the Ottomans was undergoing transformation during the late Empire period. This transformation continued during the Empire's collapse, and developed further during the early Republic period. The ideals of Western modernism that were embryonic during the late Empire period were taken up by the new Republican elites (Grigoriadis 2009). Western modernism meant that state had to separate with its Muslim Ottoman past where Islam was thought backward and represented anti-progress (Icduygu et al. 1999; Onar 2007; Tank 2005). The control of the religion was the backbone of the Ottoman system and this continued in Republican Turkey by adopting French style secularism (Onar 2007; Yavuz 2009).

The early Republic's public administration system was inherited from the late Ottoman system; it went through a series of ministerial and provincial reforms, governed under a centralist civilian and military bureaucracy, and had one-party leadership in a heavily traditional society (Roos and Roos Jr 1968). The modernisation reforms were reforms-from-above because the Republican elites claimed that their mission was to educate the traditional masses (Kardam and Cengiz 2011; Keyman 2010; Keyman and Kanci 2011). Ottoman society drew people and cultures from its domains that spanned three continents into Anatolia, this meant that the Republic inherited a religiously and racially heterogeneous population (Onar 2007). This heterogeneity included a spectrum of sectarian groups of Sunni Islam or minority Shiite Alawite Muslims, Turkish as well as non-Muslim and non-Turkish ethnic groups which historically became the source of political conflict due to their divergent identities (Carkoglu and Kalaycioglu 2009). One other important thing that the Republic inherited was the fear of invasion following a long and consuming Independence war against Western ambitions.[9] The new Republic developed a natural fear for its national sovereignty, and 'national security' of the Turkish state has been used in every area of political life[10] and turned into discourses, which have

[9] This is called Sevres Syndrome. *The Treaty of Sevres abolished the Ottoman Empire after the World War I in 1920. The basic assumption underlying Sevres Syndrome is that Europeans perceive the Turks as illegitimate invaders and occupiers of European-Christian lands and the oppressors of European-Christian peoples. Consequently, it is claimed that the Europeans' perennial aim is to remove the Turks and restore those lands to their rightful owners, i.e. of the Armenians and the Greeks in the past and now the Kurds*. Source: Yilmaz (2011).

[10] Keyman and Kanci examine this phenomenon in detail as it relates to Turkish school textbooks: *Appropriate behavior modes with respect to these issues were presented in detail, and the students to fulfill these expectations; they had to 'think', 'talk', 'act', and 'feel' in the ways presented. The citizen was in fact strictly limited through the national security discourse*. Source: Keyman and Kanci (2011, pg. 329).

been used as policy inputs in the bureaucratic decision-making process.[11] Water resources and their use for national development include the traces of such national security discourse.

Despite the vast amount of agricultural land and the majority of the population being rural peasants, the Empire's natural resources were never considered in the context of economic activity and this remained the case during the early Republic era. Anatolia had abundant fertile land and water resources; however, they were hardly known until Ataturk's reforms ordered new institutions to be set up for the survey of water and land resources (Sugar 1964). For instance, until then Islamic Ottoman civic law called *Medjelle* (Turkish: *Mecelle*) was used to regulate rights and responsibilities in water use and allocation.

Post-war conditions were poor; agriculture was the main occupation and used primitive production methods to feed millions whilst other socio-economic issues were of secondary importance. The idea of rapid industrialisation was prioritised over the structural reforms of Turkish society; economic development was the goal rather than improving the living standards of the average Turkish citizen. Bureaucratic policies targeting socio-economic issues remained temporary, solutions were incoherent and vague which continued to leave great division and distance between rural and urban Turkey, and wealth was inequitably shared between these two. After the war, in reality nothing changed in the cultural and social spheres but the state redefined Turkey's national characteristics as part of its nation-building efforts. What was once dynastic, multinational, religious, and Ottoman; became nationalist, secularist, republican, and Turkish. A duty-based citizenship was constituted within the context of the Turkish nation state: 'performing military service, internalising a Protestant work ethic, paying taxes' (Keyman and Kanci 2011). These duties existed because of love and indebtedness towards the homeland instead of individual rights because everyone must have make sacrifices in order to reach a modern Turkey (Icduygu et al. 1999; Kardam and Cengiz 2011). During the first years of the Turkish Republic, Kemalist reform demanded that modernization continue to be executed by the ruling elite and civilian bureaucracy in order to modernize the peasant masses, and if needed it should be practised by force (Karpat 1964).

This gave excessive powers to bureaucrats who rigidly applied laws when dealing with citizens, without sufficiently coordinating their actions. The bureaucracy also suffered from disproportionate levels of centralisation and had a strong desire not to give up the execution of law or the delegation of roles (Chambers 1964). When this excessiveness married with the lack of accountability and transparency, the new Republic inherited a bureaucratic system where initiative was stifled, over-centralisation led to miscommunication between departments and being a public servant (devlet memuru) required excessive discretion (Chambers 1964). Finally, these were the characteristics of what became known as the 'father state' (Turkish: *devlet baba*.

[11] For instance, Syria long argued that if Turkey does not leave enough water downstream and they resort to terrorism. The Kurdish issue has been a matter of national security and the division of Turkish country most intensively beginning in the early 1980s.

Arabaci 2008; Carkoglu and Kalaycioglu 2009; Grigoriadis 2009; Kubicek 2002) which does not feel the need to share information with its citizens, thus leading to a weak civil society.

4.1.2 Political Culture of the Multi-party Period

After World War II, Turkey experienced a major transformation in its political regime and this was mainly to do with the statist-elitist desire to complement with Western modernisation and therefore Western democracy. Without a multi-party parliamentary democracy Turkey's modernisation was half-baked because state elites saw transition from the single-party rule that dominated early Republic years to multi-party democracy as being necessary (Grigoriadis 2009; Keyman and Kanci 2011). The introduction of parliamentary democracy was widely accepted as a dominant political norm of governance, however the perception of democracy was limited to majoritarian and functionalist practices where it did not alter the political culture of strong state tradition and the duty-based citizenship, where everyone's main existence was to serve the homeland (Keyman and Kanci 2011).

Politics after 1950s were increasingly characterised political parties engaging in rent seeking activities and only caring about their members' economic interests (Heper and Keyman 1998). Some groups in Turkey, such as religious leaders and local notables, rich farmers and poor peasants also started to be more active in daily politics (Kardam and Cengiz 2011). This in turn led political patronage and conservatism/religion being used as the main strategy to obtain votes (Carkoglu and Kalaycioglu 2009; Heper and Keyman 1998). This meant that political elites were not majorly interested in approaching deep social-political problems and debating the pros and cons of socio-economic policies but were rather interested in forming alliances with leading economic powers to get popular votes (Heper and Keyman 1998). It is no surprise that the 1950s are known for 'careless, uncontrolled high growth rates where any policy proposals were hardly debated' (Heper and Keyman 1998).

Turkey's transition to democracy did not necessarily bring democracy. Military coups in 1960, 1971 and 1980 significantly damaged the prospects of further democratisation of the country (Heper 2005; Muftuler-Bac 2000) In fact, while the Turkish military became the regime guardian with constitutional reforms and emerged stronger than ever from the coups being the sole combat force with Anti-Kemalism, Turkish politics also became more polarised and diversified with the rising Islamism, leftism and minority identities (Grigoriadis 2009). State continued to be unresponsive to civil society and especially after the 1980 coup Turkey went back to its old understanding of state-centred citizenship characterised as passive, homogenous and discriminative (Kardam and Cengiz 2011).

4.1.3 *Political Culture in Neo-liberal Turkey and the Effect of Globalisation*

After the restoration of civilian rule in 1983, Turkey began to experience globalisation and went through some serious restructuring. Globalisation meant economic liberalisation and growth of global communications where centre-right and centre-left Turkish political parties had no choice but to adapt in terms of Turkey's economic policy options (Keyman and Icduygu 2003). As a result of a series of market reforms in the early 1980s, a massive wave of urbanisation occurred in the country, which had serious democratic repercussions to Turkey's political culture and its regime (Carkoglu and Kalaycioglu 2009; Yavuz 2009). Rural masses started to flow into urban areas where individual wealth, identity, privatisation, human rights and civil society started to become the language of the day (Yavuz 2009). These years were also marked by further deepening in Turkish society where the rise of political Islam, escalation of Kurdish conflict and accommodation of other forms of Islam (Alawite identity) strengthen the historically (highly) fragmented Turkish political culture and made the smooth operation of democracy difficult (Icduygu et al. 1999; Kalaycioglu 2011; Keyman and Kanci 2011).

In fact some argued that despite the successful transition to market economy, the Turkish experience with democracy has become rather controversial, as when practiced in Turkey it does 'put heavy emphasis on clientelistic networks, primordial favouritism and nepotism' (Kalaycioglu 2001). Not only that, from the mid-1980s through to the 1990s (and leading today's Turkey) saw the immense rise of Kurdish nationalism that considerably challenged the Republic's nation building project which led to a guerrilla war with terrorist organisation PKK (Kurdish: *Partiya Karkaren Kurdistane*, Kurdistan Workers' Party) in South eastern Turkey (Grigoriadis 2009), an area that happens to be under-developed, has high levels of Kurdish-speaking population, carrying the tribal-feudal characteristics of regionalism and also in severe poverty. Due to growing power of Anatolian Muslim bourgeoisie and the state's increasing tolerance of religion in the 1980s, Islamic actors started to seek legitimacy in the political arena (Turam 2007; Yavuz 2009).

Globalisation became more powerful in the 1990s and Turkey felt the economic, political and cultural effects a lot more (Keyman and Kanci 2011). First of all, the process of Europeanisation, meaning a process of interrelated economic and political reforms in line with the EU conditionality for membership, in Turkey formally started with the operation of 1995 Customs Union Agreement with the EEC (Onis 2008). Until then Turkey has been an associate member of the European community since 1964 and despite its application for full membership in 1987, all it got was a rejection as well as being denied as a candidate country in 1997 enlargement process (Kubicek 2004) when a 'soft military coup' took place where government was being obliged to resign (Heper 2005). Partly because of the impact that 28 Subat (Coup of 1997 called in Turkish, literally meaning 28th February) created on the regime, acceptance of EU candidacy status in Helsinki in 1999 and the early 2000s economic crisis, Turkey went through a reform process (Yavuz 2009) that also catalysed some

enthusiasm for complying with the EU's Copenhagen Criteria.[12] The early 2000s were a completely new era; not only did political Islam gain wide electoral support but Europeanisation and democratisation in Turkey accelerated.

4.1.4 Political Culture in the Last Decade: AKP Government and Europeanisation

In 2001, Turkey adopted a major constitutional package where the Turkish Great National Assembly (TGNA) approved 34 major amendments to improve freedom of expression and eliminate the death penalty in Turkey (Hale 2003; Kubicek 2002; Muftuler-Bac 2005; Tocci 2005). Given these reforms were adopted by a coalition party with centre-right and centre-left opinions, pursuing Copenhagen Criteria was a 'multi-partisan or national project' shared by all political parties (Kalaycioglu 2011). However, this mission was passed over to the AKP in 2002. The November elections declared AKP the sole victor in national elections where early signals of Islamic parties gaining ground and developing a strong presence against the secular state elites as well as the military (Yesilada and Noordijk 2010).

AKP has been named as an experiment in Turkish democracy (Tank 2005), variously described as a 'reformed Islamist', Islamic, Islamist, mild Islamist party (Yavuz 2009). Generally, AKP represents the conservative, traditional, rural and religious vote in Turkey, ironically though it became the ambitious pursuer of EU reforms in its early governing (Muftuler-Bac 2005). In fact, reforms that were introduced in 2002 when the death penalty was abolished, anti-terror laws revised, the ban on broadcasting and education in other languages, mainly Kurdish, was lifted; AKP played a major role in the transformation of Turkey especially related to governing structure and the relationship between state, society and individuals (Keyman 2010; Muftuler-Bac 2005; Tocci 2005). The first 3 years of AKP government showed their commitment to EU membership through a series of reforms that promoted civil liberties; this finally had an effect and in 2004 the EU opened accession negotiations with Turkey, this is mostly regarded as the golden age in terms of Turkey-EU relations (Yilmaz 2011). This golden age also corresponds with an era where AKP became a centre-right party and Turkey enjoyed considerable economic growth (Onis 2007, 2008).

Most scholars studying Turkey and its politics assert that the EU has not been the only democratisation force in Turkey, but has played a significant role by stimulating internal change and some even argue that without the EU incentive, some changes would have been a lot harder to adopt (Kubicek 2002; Muftuler-Bac 2000, 2005;

[12] *EU's famous Copenhagen criteria specify that any state that wants to join the EU must enjoy stable democratic institutions, rule of law, respect for human rights, minorities, a functioning market economy and shown progress in adopting European Union law* (*Acquis Communataire*). *Since 1993, from the moment that it is accepted, Copenhagen Criteria became the conditionality package for candidate states.*

Tocci 2005). For instance, it is argued that Turkey's Europeanisation played a key role in creating a 'pro-democratic civil society' (Simsek 2004). The process of accession catalysed the development and importance of civil society organisations. While their importance increased, the EU funding supported their capacity building and state's dominant role in economic and political arena decreased relatively and balanced with private sector and civil society organisations (Topal and Gurdag 2009).[13] The progress made by Turkey since 2002 opened a more liberal environment for civil society to function (Goksel and Gunes 2005) and that said, in return civil society actors in Turkey supported Turkey's EU cause the most (Heper 2005; Heper and Yildirim 2011; Onar 2007) and the EU process is perceived as positive (Icduygu et al. 2010). For instance, EU membership was actively supported by big business associations, especially by TUSIAD (Turkish Acronym for: Association of Industrialists and Businessmen of Turkey) in the search for political stability (Onis 2000; Diez et al. 2005; Goksel and Gunes 2005; Heper 2005).

Since the early Republican years, duty-based citizenship understanding in Turkish society has not been challenged or debated (Icduygu et al. 1999). In fact, some argued that despite several alterations over the course of the Turkish Republic, Turkish citizenship discourse and regime has a number of ambiguities because of the interruptions in consolidation of democracy as well as the way the strong father state viewed its citizens (Keyman and Kanci 2011). A democratic understanding of citizenship is a lacking quality when human rights are not strongly defended and where differences are not easily accepted (Kardam and Cengiz 2011). In this sense, associability is regarded as a scarce commodity in Turkish culture where the society has plenty of interpersonal distrust, lack of civil initiative and voluntarism for any cause (Carkoglu and Kalaycioglu 2009; Kalaycioglu 2001). Any desire towards forming and keeping a political, social and economic organisation utilises 'blood ties, lineage relations, regional bonds and primordial associations to a great extent, in fact these are seen as essential ingredients to keep an initiative in this regard alive' (Kalaycioglu 2001).

Thus a narrow space for civil society was created because perception of democracy in Turkish society is limited to holding elections and having a representative parliament (Goksel and Gunes 2005). This is partly why some argue that if civil society is defined as something more than the existence of associational life (Bikmen and Meydanoglu 2006) and where civil society actually means not having only

[13] Some scholars question the EU funding and the degree of democratic consolidation in Turkey. For instance Icduygu (2011) says: *As far as the recent developments concerned, very few seem unconvinced that civil society in Turkey plays a significant role in the country's democratic consolidation process as well as its steps towards integration with Europe. However, the involvement of civil society organisations in EU integration has been very much preoccupied with interest-based, pragmatic approaches such as involvement through capacity building, fund demanding or providing pro-EU campaigning. There is no doubt that this involvement should go beyond the questions of organisational strengthening or EU promoting*. Arabaci (2008, pg. 88) also points to the same issue: *The development of Turkey's civil society can also be attributed to the incentives provided by the EU. The EU has made itself attractive by offering incentives in the form of pre-accession aid, grants and civil society development programmes to candidate countries*.

interest groups (businessmen associations or trade unions for instance) but also pressure groups (Heper and Yildirim 2011), functioning as a warning mechanism about serious public problems and the ability to put together agendas to address problems (Jalali 2002), history of Turkish civil society has rather short beginning in the 1980s (Bikmen and Meydanoglu 2006; Icduygu et al. 2010; Icduygu 2011).

Some argue that there are three path-breaking developments in terms of serious development and improvement of Turkish civil society: United Nations Human Settlements Programme (HABITAT) Summit which took place in 1996 in Istanbul, 1999 Marmara Earthquake and the EU accession process (Arabaci 2008; Goksel and Gunes 2005). In fact, the Marmara Earthquake's effect on civil society and the Turkish peoples' understanding of civil society (Bikmen and Meydanoglu 2006; Grigoriadis 2009; Jalali 2002; Kalaycioglu 2001; Keyman and Icduygu 2003; Kubicek 2002) is widely studied in literature and accepted as a milestone where Turkish civil society had a major image change in front of Turkish society. The disaster eroded the perception of strong state; the state was actually shown to be helpless and weak in responding and dealing with important issues and civil society demonstrated that it could be more responsive than the state to serious issues (Kalaycioglu 2001; Keyman and Icduygu 2003). The earthquake disaster showed that while strong authoritarian paternal state and its impediments on civil society activities exist (Karaman and Aras 2000; Keyman and Icduygu 2003; Simsek 2004), Turkish civil society started to be a vibrant force (Jalali 2002). It has been growing qualitatively and quantitatively, trying to raise the issues that the elites avoid (Keyman and Icduygu 2003; Toros 2007) despite the debate around whether quantity increase can be deceitful and whether this nascent society is vibrant enough for full democratisation and whether it is civil enough (Icduygu 2011; Keyman and Icduygu 2003; Simsek 2004). There are number of reasons behind this debate and the barriers/weaknesses of Turkish society preventing it from being a fully Western style civil society are well studied (Biber 2009; Bikmen and Meydanoglu 2006; Heper and Yildirim 2011; Icduygu 2011; Icduygu et al. 2010; Karaman and Aras 2000).

It might be worthwhile to mention briefly what these are without getting into detail, because an active pressuring civil society is the core dimension of a democratic water management and policy; and I argue that having a participatory water governance system will be the hardest to achieve of the EU aspirations for Turkey as discussed above how the civil society (as it understood in the West) concept and tradition is fairly new to Turkish political culture. First of all, some argue that the concepts of enhancing civil society in Turkey are borrowed and mostly symbolical instead of being applied rigorously at the organisational level (Heper and Yildirim 2011). Some follow on the same argument supporting it that the number of NGOs increased dramatically in Turkey in the 1980s and especially in the 1990s where it was the case everywhere else in the world because globalisation made civil society and activism stronger, however their impact on public policies and Turkish peoples' willingness to actively participate in public life was relatively trivial (Karaman and Aras 2000; Simsek 2004).

Secondly, the fact that Turkish civil society is contained/trapped by ideological (left versus right, Kemalist versus Islamic), cultural (Shiite versus Sunni, Kurdish versus Turkish, man versus woman) and social (rural versus urban, eastern versus western) boundaries of the Turkish political culture increased insurmountable barriers of communication between their equivalents (Kuzmanovic 2010). This meant they lacked the very essential skill of having equality within and between before even starting to do activism for Turkish people being more equal and democratic. This also meant that some NGOs, the ones who happen to support the ideological, cultural and social causes of the ruling government, are favoured by the state (Jalali 2002; Karaman and Aras 2000). If they support the state's official ideology, they will be harassed less by the state and the government will respond to those civil society segments more, which helps them to sustain their flow of income (Karaman and Aras 2000; Simsek 2004). For instance, it is argued that while AKP government did not necessarily oppress a particular civil society organisation, however did not really support it either while supporting its proponent NGOs (Goksel and Gunes 2005).

Thirdly, due to general characteristics of Turkish culture, the single-issue advocacy groups, local and national civic initiatives and voluntarism is low in Turkey. These groups find their chances of engaging with Turkish authorities and society slim (Kalaycioglu 2001; Keyman and Icduygu 2003; Kuzmanovic 2010; Topal and Gurdag 2009).[14] Especially beginning with 1990s, environmentalists and animal rights activists made some progress with their single-issue campaigns and using media effectively to give Turkish public messages in local environment movements (such as in Manisa, Bergama, Akkuyu and Gokova. Kalaycioglu 2001; Scheumann et al. 2011). They never had as much of an impact as their economic non-governmental counterparts as well as their activism sometimes coming across as detached from the Turkish public despite the expansion and improvement that they have faced in the last decades (Kalaycioglu 2001; Icduygu et al. 2010).

Despite all these one cannot claim that Turkish civil society does not really exist but perhaps demonstrates that civil society in Turkey is in an era of transition with more weaknesses than strengths and is still far from contributing to democratisation in Turkey (Icduygu et al. 2010; Keyman and Icduygu 2003; Simsek 2004). While some characteristics, such as the number of NGOs and more or less an individualistic culture emanating from further economic liberalisation exist, its autonomy and freedom to function before state and military is under-developed and at times heavily stratified from these powerful forces of the centre (Simsek 2004). A recent international study demonstrated that Turkish civil society organisations tend to be more active in social services and solidarity making, advocacy and policy-oriented activities less common and about 65 % of associations do not work on policy issues

[14] Kuzmanovic (2010) explains civic activism has increasingly become synonymous with carrying out projects. She argues that project culture is reshaping what civil society is and what civic activism means; civil society is changing due to the integration of Turkey with the outside world, especially with the EU and Turkey-EU relations reshape Turkish political culture. Project culture is also discussed in Arabaci (2008).

but rather deliver social services and solidarity (Icduygu et al. 2010). Civil society is frail in Turkey but time will show the recent changes can make this ever growing and developing sector could affect Turkish political culture significantly especially under a growing conservatist and traditional political regime.

This is how Turkey looks when one views it with rose tinted glasses. In fact, some argue that AKP government have not facilitated democracy because the party was pro-democracy, it did so almost accidently that their Islamist agenda and activities somehow coincided with the transformation of the state (Turam 2007). However, AKP often chose to believe and reflected on the fact that it should be the only Turkish political party given credit for creating higher standards of liberties, rights and democracy in Turkey (Kalaycioglu 2011). Being the only majority party in rule AKP made a habit of ignoring all opposition to its legislative endeavours as well as discrediting their credentials by casting them as foes and not democratic (Kalaycioglu 2011). By having such pragmatic approach to democracy united with a weak opposition, AKP's transformative efforts did not so much change the political culture or state/society and individual relations, rather it created a further deepening, anxiety and fear in the Turkish society, especially for people who were not necessarily conservative or traditional (Keyman 2010). This position was confirmed in consecutive electoral wins of 2004, 2007, and 2009 and got more and more authoritative rather than consolidating democracy.

Turkish conservatism came across as tolerant and supportive of economic change however majorly sceptical about secularism, modernisation and generally the change itself, especially to the socio-political nodes of the society (Yavuz 2009). Some Turkish scholars argue that this Sunni Islamic conservatism will be very much part of Turkey's new face that has some distinct characteristics again fed by political culture of the conservatist segments of the Turkish society such as authoritarianism, dogmatism and anomie (Carkoglu and Kalaycioglu 2009; Kalaycioglu (2012).

This guess has been proven true with a number of incidents such as seeking to ban alcohol and attempts to criminalise adultery in the penal code (Onar 2007). And more so beginning with 2007, losing the EU focus in terms of reform and policy making (Kalaycioglu 2011). AKP became more and more partisan in terms of the legislation it proposed to popular vote. Some scholars argue that some recent constitutional amendments prepared by the AKP are examples of 'enhanced partisanship' and 'elite conflict' in Turkey and since 2007 there is another round of deepening conflict between secularists and Islamists where deeply embedded political culture demonstrates itself (Kalaycioglu 2012). This is hardly a consolidation of democracy and it does not only widen societal conflicts but also effectively is used by politicians in their pursuit of votes. 'Yes' votes for the AKP's 2010 referendum package for constitutional amendments and passing of the package from Parliament once more demonstrated that things are changing in Turkey but not necessarily for the better. While democratic consolidation is happening, it is happening in a semi-authoritarian way and still by marginalising 'others' (Simsek 2004). Turkish society is becoming more conservative and AKP effectively reducing the secular-militarist Kemalist tones in Turkish political regime, which is introducing a deepening conflict with its opponents.

4.2 Political Culture of Turkish Water Bureaucracy

This section gives an overall picture of the Turkish water bureaucracy by setting up three separate arguments. In the first instance, the purpose is to demonstrate the institutional mindset, perceptions, culture and mentality of the water bureaucracy. Secondly, what happens in practice, as opposed to bureaucracies' perceptions of what happens, is shown. Problems and conflicts arise because the bureaucracy's mindset disadvantages the citizenry and defines the ingredients of Turkish water policy. Finally, water policy is generated by this institutional set up and there is not a mindset that can allow IWRM to be practised and the EU WFD to be fully implemented in Turkey.

4.2.1 The Bureaucratic Culture

The Ottomans had a sophisticated land management system, *Tımar*, where land was leased in return for public and military service (Bıyık and Yavuz 2003). However, our current knowledge regarding Ottoman water administration is limited. Water works (such as aqueducts, arcs, canals) were the typical features of the Ottoman era. Water use was determined by Islamic *Medjelle* based on the historical user rights (Ozbay 2006).[15] The state owned the surface waters and defined water rights. The provision of drinking water and irrigation was undertaken by pious foundations (Turkish: *vakıflar*), which did religious charity (Yildiz 2007).[16] Ataturk attempted to establish a department for assessing water resource potential in 1925, however, until 1950 when the SHW (State Hydraulic Works) was established, there was not any strong institutional mandate over the administration of water resources (see Table A.6 in the Appendix).

Freshwater resources in Turkey are currently nationally planned and administered by an engineering-dominant centralist technocracy. The use and allocation of water resources are part of a national economic development discourse, a discourse to eliminate poverty in the backward regions, some of which also happen to be the regions that lie within the watersheds of trans-boundary rivers of Turkey, where water is also made into a national security issue. The institutionalisation of environmental protection is a new phenomenon where administration of water resources is

[15] Mecelle (Medjelle), the codified Law of Ottomans that was approved during the reform and westernization process (Islahat Fermani-1856) was a tool to westernize the Ottoman law system similar to that of Europeans. Mecelle was the aggregation of codified documents that were previously the subject of customary law coming from Islamic Law. Mecelle regarded natural resources, including surface water, in a semi-theocratic and private law fashion. The codified Mecelle continued to be in practice from its endorsement in 1879–1926, until the approval of the new European style Civic Law that was borrowed from Switzerland.

[16] A similar exploration of Ottoman heritage of water works also can be found in Paunova (2004, pg. 262).

split between technical organisations. Despite being the biggest user, the agricultural department is not influential at all in terms of shaping decisions within water policy-making.

Four bureaucratic organisations are active regarding the water resources development policy and have historically shaped and dominated the making of bureaucratic culture and water decision-making. The first of these is the State Planning Organisation (SPO).

Before anything else occurs, the central planning organisation, SPO, economically decides how Turkey uses and allocates freshwater resources. Turkey was the first country, after the Soviet Union, to use a planning approach in order to industrialize (Mihci 2004).[17] The establishment of the SPO (1960) was a reaction to the Democratic Party (DP) rule under religion-tolerant economic liberals. During the 1950s, there was political turbulence between the military-backed secular state bureaucrats who favoured state planning and the DP, which targeted unplanned development (Turkish: *plansiz kalkinma*).[18] Secular bureaucrats argued that natural resources should be taken under state control and private use could only be allowed with the permission and supervision of the state (Shaw and Shaw 1977). After the military coup in 1960 that overthrew the DP, the SPO identified national priorities for optimum economic development and coordinated national level planning of water infrastructure and demands of economic sectors (Republic of Turkey 2003). The planning of water resources for national economic development became popular during the 1970s. Five-year development plans were prepared beginning in the 1980s (Ekiz and Somel 2007). The planning ideology led to the prioritisation of national budget items, and used water infrastructure investments to drive economic growth as a whole. Most importantly it mobilised water resource development in the most underdeveloped regions in Turkey to eliminate poverty, such as in the terrorism and separatism-troubled southeast of Anatolia. Central planning gave legitimacy to technical water institutions such as the SHW, and justified their large-scale water projects and construction activities for economic development. Since the SPO decisions were (and still are) first submitted to the Turkish Grand National Assembly (TGNA) to seek budget allocations, planning items that went into 5-year development plans were carefully selected and highly political.

Despite its efforts to increase welfare and living standards, the central planning mindset remained insufficient in meeting the socio-cultural components of the economic planning activities in regions. The Southeast Anatolian Project (Turkish: *Guneydogu Anadolu Projesi*, *GAP*) is an example where central planning proved unsuccessful in terms of achieving its social and human development components. While all the projects that had monetary value were completed, such as dams and

[17] Mihci also describes these years as the years of inflation, hardships in the repayments of foreign debts as well as the political pressure that came out of it (see pg. 172).

[18] The rationale behind setting up a central planning organisation was to progress industrialisation under the administration of technocratic elite who belonged to 'no political party'. See: Gole (2004, pg. 108–109). Its mandate was codified in the Constitution to develop plans for the economic, social, and cultural development of the Republic. See: Shaw and Shaw (1977).

canals, socio-economic projects such as poverty elimination, irrigation development and their impact on regional economy were less rigorously pursued. A senior SHW officer expressed this in an interview with the author:

> The State thought and acted here like a dealer and a tradesman: all of the projects that had monetary value were completed but not the ones that had social aspects (SHW expropriation officer, pers. comm.).

This was because water resource planning was purely economic, mostly technical, and boldly centralist. Economic and sectoral planning was done by the SPO; which projects, and how they should be implemented, was technically planned by the SHW, the second important actor that shapes the political culture of water bureaucracy in Turkey. The SHW was created to fill a gap in water administration dating back to the Ottoman period.

Turkey's biggest water institution is the General Directorate of State Hydraulic Works which regards itself as the primary executive agency responsible for Turkey's overall water resource development (SHW 2005). Its authority in Turkish water resource allocation and planning is long recognized in the decisions of Turkish Administrative Courts (Ozbay 2006).[19] SHW centralizes water planning and is responsible for project development and implementation at the national level (SHW 1996). It has four major tasks in water issues: improvement of irrigated agriculture, hydroelectricity production, drinking water supply and flood prevention (SHW 2005). They are executed by planning and developing available water resources 'technically and economically' with the means of engineering, mostly by intervening in the natural flow or building large scale engineering structures (SHW 2005). When SHW transferred the operation and maintenance of irrigation structure to water users in 1993, due to neo-liberal measures to reduce state involvement in the service provision, significant decentralisation occurred in terms of irrigation management. By 2002 a total of 1.5 million hectares had been delivered to user associations which is approximately the 95 % of irrigation systems (Kadirbeyoglu 2008).

The Turkish public knows SHW as 'the dam-maker' and it has a unique traditional technical role among the water bureaucracy. Its bureaucrats insist on taking part in any discussion on freshwater resosurces. The mindset and organisational set-up for bureuacrat-engineers and their historical approach to basin-wide master planning in river basins was borrowed from the US.[20] The American Bureau of Reclamation (BoR, Karataban 2006)[21] was adapted to a Turkish version of bureaucratic engineering

[19] Note: SHW was first structured under the aegis of the Ministry of Public Works and Settlement and went through several changes in terms of where it should function. For a long time, it was attached to the Ministry of Natural Resources and Energy. AK government appropriately located SHW in the MOEF in 2007 which was recently re-named the Ministry of Forestry and Water Works before the submission of this book.

[20] Master planning became popular in the 1950s to economically support dry Western parts in the States.

[21] This is also repeated at the author's interviews with senior SHW assistant manager (Operation and Maintenance), senior SHW expropriation expert and senior SHW assistant head of department (projects and construction) in Ankara, December 2006.

in the SHW[22] and influenced the way water administration functioned.[23] Due to the scale of their involvement in water issues, the SHW views itself as the single water policy-maker in Turkey (Yalcin and Eken 2006). SHW is believed to have wielded enormous power in the past, and consumed a sizeable portion of the nation's investment budget for the development of the hydraulic works to promote Turkey's economic development (World Bank 2006). Because of this, the SHW's role was uncriticized in the greater governance of water resources in Turkey. Due to the central planning framework, SHW usually worked in a paternalistic fashion where the needs and demands for water were identified and restricted by the budgetary and economical planning considerations imposed by the TGNA decisions.

The global oil crisis in 1973 and the military coup in 1980 prepared the ground for a neo-liberal turn which resulted with the role of state diminishing and transforming into being a regulator of a business environment assisting private companies to provide the services such as, water and electricity (Islar 2012b; Kibaroglu et al. 2009). During the increasing decentralisation of the 1990s, the operational and maintenance responsibilities of SHW were distributed to other bodies such as, municipalities, water user associations and the private sector (Kibaroglu and Baskan 2011). Whilst it might appear that the SHW's role was reduced and transferred to other agencies, the reality is that the neo-liberal twist did not really change the fundamental components of how things worked (Islar 2012b). Instead through the state's regulatory mechanisms favouring private sector interests, the easment of rights on property and the allowance of environmentally destructive projects created 'water grabbing' (Islar 2012a). To the Turkish public, SHW has been perceived as a provider of services rather than a steward or manager of water resources. One SHW head of department reveals this culture of paternalism:

> If we deliver a project, we deliver a service and that is the most important. For instance, drinking water supply projects are highly rentable projects which we deliver on a regular basis (SHW Head of Department (Projects and Construction) pers. comm.).

SHW's deeds have not been subject to question as the organisation claims that what it does is good for society and too technical for the public to understand. SHW operates in a highly paternalistic, untransparent and elitist fashion due to the technical nature of its work.

Due to the number of trans-boundary water resources in Turkey, the Turkish Ministry of Foreign Affairs (MFA) plays an important role in preserving the secrecy of the technical institutional information and preventing accessibility to water management knowledge. Despite its limited and specific expertise (Denk 1997),[24]

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[22] BoR's organisational structure and its approach internationlly gained popularity and expanded throughout geographies even to the Middle East in 1950s via training opportunities offered by BoR officials, which many scholars think was a deliberate move. For an analysis see: Wescoat et al (1992).

[23] Demirel was an old school engineer who was also trained by the USBR. Before becoming the president of Turkey, he was the former head of SHW. The SHW has played an important role in his political career and in his political discourses where he stepped into the Turkish politics. See: Demirel (2007).

[24] The relevant department (Regional and Trans-boundary Waters) was formed in 1994 where previous trans-boundary water negotiations had been conducted by the State Hydraulic Works officials see: Denk (1997, pg. 31).

the MFA has become a key actor in water policy-making at the national level (Nature Society wetlands coordinator, pers. comm.).[25] Beginning in the late 1990s the Ministry gained greater influence over the decision-making of technical water institutions. This was because the trans-boundary water resources, specifically the Euphrates and Tigris rivers, became entangled in a foreign policy crisis regarding water sharing and separatism (the Kurdish issue and terrorism) with Turkey's Middle Eastern neighbours (Syria and Iraq). After that time, Turkey's trans-boundary water policy increasingly influenced its domestic water management, and vice versa, which cannot be detached from the national water policy-making and management (Öktem 2006). The MFA's approach and course of action constrains the internal water bureaucracy's openness, limiting transparency and achievement of full stakeholder participation in the water development process. This is due to the MFA's decisions impacting on the greater national interests in the international arena. It is acknowledged that when it comes to Turkey's national interests, evidently technical institutions, such as the SHW, can not guard such interests. This is because they operate on a practical engineering logic, which is in stark contrast with that of diplomats (Fırat and Kürkçüoğlu 2003).[26]

While the SHW, MFA and the SPO introduced and consolidated paternalistic, technical, and heavily centralist institutions, an Environmental Law (No. 2872) was introduced in 1983 (SHW 2005) and the Ministry of Environment and Forestry (MOEF) was formed in 1991 (Republic of Turkey 2003). Significant progress has been made in environmental protection and within environmental legislation where the main Environmental Law introduced concepts for the administration of water quality, sustainable development and the penalizing of polluters. However, this law was effectively implemented due to three factors: state adopted these environmental institutions as a way to respond to norms developed by global organisations, prevalence of patron-client relationships as well as top-down paternal modernity eroded public sphere, and the set up institutions were designed with counter-productive incentive structures (Kadirbeyoglu 2010).

The previous version of the Environmental Law did not give any credit to the concept of sustainable development; rather it accepted the concept of economic development. It was agreed that the environment could only be protected if finances would permit (Yasamis 2006) which meant the mandates of the SPO and the SHW would be challenged by the innovation of the MOEF mandate. It is interesting that in 2007 structural reform brought SHW under the MOEF and made it Ministry of Forests and Water Issues as well as creating another Ministry called Ministry of Environment and Urbanisation. This became a major contention because development discourse

[25] She pointed out that it is really interesting there are two most important actors in Turkish water administration: the SHW and the Ministry of Foreign Affairs.

[26] My experience during a Masters course on hydropolitics was that Turkish academics repeatedly touched on the fact that the mathematical allocation of water resources of the Euphrates and Tigris rivers with Syria is unacceptable and is regarded as one of the most disastrous diplomatic moves that could ever be achieved by Turkish authorities (mostly SHW officials not diplomats) at the time.

did not match with the protection of the resources (Islar 2012b). As an example to this, one SHW head of department said:

> The SHW is more environmentalist than anyone else in town. Our work is entirely based on rentability/profitability so we weigh environment and people. SHW tries to consider these equally because rentability changes according to several parameters and these parameters are most of the time technical. So SHW is more green than any other department in this town. This also means our approach is integrated (SHW Head of Department (Projects and Construction), pers. comm.).

These four institutions established their own specific place in Turkish water administration where Turkish political culture reinforced their institutional cultures. For instance, central planning ideology reduced the consideration of water resources to an economic planning practice where allocation of planning projects became political due to the governing parties' priorities. The institutions began providing a water service instead of managing water and its multiple aspects, and reduced it to a service provision and water development transaction within civil engineering and construction projects. Since the SHW was the technical planning provider, its paternalistic and technical mindset mutually nourished the central planning ideology. The MOEF, which became involved much later, became the obvious outsider with its new agendas and its mandate on the quality of water where those mandates had previously been supervised and undertaken by the SHW, therefore creating a tension. The MFA's role further reinforced the technical and elitist knowledge that was created by the SHW under the discourse of the national significance of water resources and as part of a national security discourses.

Apart from these four key institutions there are other institutional bodies, which have water mandates and functions that also consolidate the above features of the bureaucratic culture (Findley 1980). These other Ministerial bodies are involved in water-related decision-making with their indirect or direct roles regarding water issues (Moroglu and Yazgan 2008; Yildiz 2007). The Ministry of Culture and Tourism has a role regarding the construction of wastewater infrastructure systems in touristic areas. The State Meteorological Institution (climate and rainfall estimations), State Institution for Statistics (providence of water and energy statistics), and State's Ore and Mineral Surveying Department for surveying geo-thermal resources and potentials (Turkish: *Maden Tetkik Arama* (*MTA*)) can be counted among these institutions. The Ministry of Health was given the mandate to control the hygiene of drinking water in 1936. Then the Ministry was given responsibilities of the protection of general public health. In 1984, the role of Environmental Health Directorate was expanded and was given the duties of water quality control, undertaking physical, chemical, and microbiological analysis. These shall not be explained in detail due to the fact that their bureaucratic construction and organizational culture is deemed to be less effective in water decision-making and water policy decisions.

One institution that is particularly important in the development of Turkish water policy is the Regional Development Administration (Turkish: *Bolge Kalkinma Idaresi*) which was formed for the South Eastern Anatolia Project (Turkish: *Guneydogu Anadolu Projesi*, *GAP*) activities. GAP is an excellent showcase for the typical features of the developmentalist water culture in Turkey where patronage

and top-down paternalism marries well and the Turkish state's deepest conflicts of national identity and those who lie outside those identity claims and Turkishness (Carkoglu and Eder 2005). GAP is intrinsically intertwined with the Kurdish problem, which has always complicated the real/true implementation of the project as Kurds have been the dominant group in the region and where Kurdish separatists (PKK) and Turkish military have been fighting (Carkoglu and Eder 2005). These developments showed that there was clearly an absence of common thinking and vision between the planners of GAP and the local Kurdish communities (Carkoglu and Eder 2005).

The southeast Anatolia region extends through the vast plains that lie between the lower Euphrates and Tigris including the provinces of Adıyaman, Batman, Diyarbakır, Gaziantep, Kilis, Mardin, Siirt, Şanlıurfa, Şırnak. The newly created Turkish state had to make many difficult financial choices in rebuilding the country, and the southeast Anatolia region received little attention, with a focus on western portions of the country (Mann 2002). The GAP Project was originally aimed at developing irrigation and hydropower projects in the 1970s in these areas that the Euphrates and Tigris flow through (Unver 1998; Yildiz 2008; Mortan 1998). The very logic of GAP was to focus on neglected human development by turning abundant water and land resources into economic activity in a way that boosted the regional economy and standard of living (Mann 2002). This socio-economic human development dimension though, did not become evident until the early 1980s (Carkoglu and Eder 1998). Twenty-two dams and 19 hydroelectric power plants along with some 47 water storage facilities and 86 water pumping stations were to be built over 30 years with a budget of US$ 32 billion (Fırat and Kürkçüoğlu 2003). Despite the scale of the investment and the effort put into this project, the administration of the project created mixed feelings among the experts. One of the widespread criticism is that short term, immediate gains such as, maximisation of electric output and agricultural yield have guided the design of GAP more than the implementation and long term complex objectives such as, education, agricultural training, crop breeding and improved health services have been postponed in favour of immediate productionist results (Carkoglu and Eder 2005). While some believed that its practices were the first examples of 'regional governance' in Turkey (Özgül and Agah 2003), others saw the project as too centralized and this meant regionalization failed.

These concerns are elevated with the emergence and persistence of the GAP, namely the potential the project offered for political patronage suggesting that there are actually serious problems with the strategies and implementation of regional integration rather than an absence of sufficient funds and incentives (Carkoglu and Eder 2005). The creation of local clientele, which is totally dependent on the state, and the distribution of the state rent have also impeded the development of civil society and genuine local participation (Carkoglu and Eder 2005). There were some criticisms regarding the functions and the existence of the GAP administration. It is authorized by a Decree-Law but its operational ability is severely limited. The Administration was also criticized for implementing top-down projects from Ankara without having any sense of other significant institutions' participation in the region

(Yildiz 2007). The Administration was criticised for misallocation of the institutional budget towards the promotion of organization and the lack of regional activities that would potentially catalyze regional socio-economic development.

The Ministry of Agriculture and Rural Services (MARA) is a state department whose functions are marginalised in Turkish water management. The Ottoman Empire was based on an agrarian economy with labour scarce, land rich and capital poor conditions (Quataert 2000). Commercialization led agriculture from subsistence farming to the production of agricultural goods for trading. This had immense implications for water and land resources where from the early eighteenth century to the Republic era, there were vast stretches of uncultivated, sometimes nearly empty land on every side (Quataert 2000). The first Agricultural department was formed in 1937 (MARA 2004). Currently, the Ministry has no responsibility for irrigated agriculture, nor does it have any unit that has expertise on this subject or is in charge of on-farm water management (World Bank 2006). MARA functions are limited to agricultural advisory roles (WWF Turkey head of freshwater programme, pers. comm.). The Ministry, despite its main function regarding agricultural land use, had little to say regarding water administration. For instance, in early 2000, the Ministry's role in defining Turkey's agricultural policy was considerably reduced and allocated between Treasury and the SPO (Suiçmez 2000). The removal of institutional power from MARA has been criticized because agriculture is still the biggest water user in Turkey (Suiçmez 2000).

4.2.2 Conflicts and Issues of the Water Bureaucracy

The institutional mentalities and functions of the primary institutions such as the SPO and SHW have brought forward a series of issues and conflicts within Turkish water policy. Of those, one of the most important and encompassing issues is the fragmentation of institutional mandates and legislation. This fragmentation translates into a further lack of coordination of water governance, execution of different laws without having umbrella legislation for the management of water resources, and the conflicted relationship between the institutions involved. There is a lack of an umbrella law and many mandates involved in water functions are not integrated in terms of water quality and quantity, surface and groundwater, and land and water resources. Disestablishment of previous water organisations due to changes of government and organisational restructuring have impacted on and inhibited the implementation of consistent policies as well as resulting in the arbitrary loss of staff and their replacements being hired on a political rather than merit basis. The current fragmentation and lack of coordination in the Turkish water bureaucracy is a continuation of the Ottoman and early Republic public administration structures. Fragmentation and coordination issues in water management are a reflection of Turkish political culture. This section demonstrates these conflicts and issues by giving examples from the fieldwork interviews in Turkey. The obvious lack of coordination in the activities of different water-related organisations leading to

conflict over responsibilities and organisational mandates is a major problem in Turkish water management. An SPO irrigation expert called this:

> A chronic disagreement and continued distrust between the departments; instead of getting things done, the organisations mainly thwarted each others' views and long-frustrated these coordination activities, making them futile and without direction (Senior SPO irrigation sector expert, pers. comm.).

A senior MOEF engineer commented on the fragmentation, conflict and lack of coordination on issues of legality as well as the translation of existing legislation:

> One very obvious example about water is that fourteen different institutions work with water resources. Inter-departmental impact, jurisdiction and authority looks as if it is organised around a high-level arrangement, there is one primary authority which deals with water use and allocation and that institution is SHW. For protection of water quality there is only MOEF. We manage wastewater treatment nationwide but give authority to metropolitan municipalities to execute it. They are willing to do it because there are a lot of funds flowing to them in the process. But there is one thing here that is rather complicated and that is other departments and institutions can go outside their legislative mandates and cross over their operational boundaries especially within the subject of the environment. If one looks at the institutional legislation there is no confusion but if you look at their implementation that's where the complexity starts. Then that means it is about people, for instance you might have a group of people in SHW, who do not have any authority regarding waste water but for instance they release a circular order regarding their irrigation schemes, this order says I do have irrigation schemes and that could give me a mandate for auditing and monitoring waste water. This is a very simple example and I don't personally think this is malevolent, I mean where institutions intervene in each others' mandate, however at the end it is like a reward given to the bear's owner and not the bear itself. This is not only a SHW versus MOEF matter; I have seen it in other institutions as well (Senior MOEF geology engineer, pers. comm.).

Officers and interviewees from different state departments and NGOs have differing opinions on which department might be the culprit in bad coordination of water functions and which one therefore bears the guilt for catalyzing conflict. Here are some reflections from a senior SHW manager about the problem:

> SHW and MOEF see each other as rivals, as they have similar mandates and blurry roles in their functions and duties. In some cases, coordination with other departments is a forced one, I particularly remember when we were asked to collaborate with the Department of Natural Hazards and they turned it down stating that they do not have any common duties despite the flood prevention duties of SHW (Senior SHW manager reponsible for drinking water suppy, pers. comm.).

Another example given was the relationship between the SHW, the Bank of the Provinces (BOP) and municipalities. The same officer explained the coordination conundrum:

> There is no coordination between SHW, BOP and municipalities regarding some of the drinking water and wastewater treatment services. For instance, municipalities are responsible for supplying drinking water to their communities. However, upon their desire SHW gets involved in most of these processes. The Municipality might provide water supply and sewage but because municipalities can be indebted to SHW to finish these works, and since this main funding comes from the general budget, they might be built by SHW but given back to municipalities. This means although these functions are within municipalities'

> jurisdiction and they do have budgets for this, because they have the opportunity to access general budget funding they are not so willing to spend their own. This gets quite political (Senior SHW manager reponsible for drinking water suppy, pers. comm.).[27]

According to a senior SPO irrigation expert, in the last two decades the SPO has been trying to fulfil that facilitating role and has been organising coordination meetings where all departments meet to discuss the issues involved in water management. She further added that the coordination issue has significantly improved since a single party (AKP) has been in government as opposed to previous coalitions. The SPO's positive attitudes are recognised widely by the NGOs. The WWF Turkey's head of freshwater programme and Nature Society (Turkish: *Doga Dernegi*) supported the SPO's attitude in this regard:

> SPO should be in charge in many areas of water management. This organisation acknowledges the most issues of water management in Turkey and declares these problems exist in their development plans; although these concerns seem to remain on paper rather than resolved in practice (WWF Turkey head of freshwater programme, pers. comm.). However, transferring this practical cooperation seems to be hard at the inter-institutional level because of the deep-seated organizational cultures in different water organizations (General manager of the Nature Society, pers. comm.).

The SHW seems to have a bad reputation in terms of the conflicts it created between itself and other water mandated organisations. For instance, a MARA assistant manager said:

> SHW has a water development mission. Nobody would comfortably say this at SHW, but there is a lot of duplication that impedes the efficient management of water resources in Turkey. Subject matters regarding water allocation and administration should go under a single department, whatever you may call it, council or high level body, we need such an arrangement. At the sectoral level water use and allocation is very interesting. So for instance, with the drinking water sector you have got General Directorate of Rural Services (GDRS) for supplying drinking water for the villages; this institution is now disestablished and its authorities are being distributed among the eighty something provincial administrations which are by the way attached to the Ministry of Internal Affairs. This Ministry is not equipped to do this. So you have got a separation for population threshold, if you have more than a hundred thousand you have got SHW supplying water to you and if you are below you have got municipalities and BOP giving you the water (Senior MARA assistant manager of agricultural reform, pers. comm.).

Not only the acknowledgement of the SHW's privileged functions and the expansive access to rights of water use with the case law, SHW has also been called a 'construction company', 'maximum utilizer of water resources in Turkey' where it is claimed that the SHW does not have the level of environmental sensitivity that MOEF has. While, for instance, a Turkish NGO stated that MOEF is much more sympathetic and posi-

[27] He continued giving an example: "For instance they want to solve Ankara's drinking water problem by bringing water from Gerede by Japanese funds. The municipality might like to go ahead with it but it first requires a SHW permit. Municipalities want to keep getting this funding and never want to be indebted to SHW. This makes them sloppy with other things, such as they do their part in the projects, because they don't take these tasks seriously such as expropriation. It is important they do these things from their own budget but they don't because short-term political interests preponderated."

tive which means there is a chance to work and cooperate with them, there are serious worries regarding the SHW in terms of their perceptions about water management and river basin governance (Nature Society wetlands coordinator, pers. comm.) as well as the SHW's leading role in defining Turkey's water policy targets (Yalcin and Eken 2006). Some NGOs expressed these worries, for instance a senior TEMA[28] engineer noted that in a water administration system where every bureaucratic entity undertakes their own program the main concern should be that the SHW simply cannot carry (and currently does not carry) these qualifications as an institution particularly in the rural context. The TEMA senior engineer stated that:

> Water saving, efficient water use in the agricultural field, irrigation network efficiency and modernizing irrigation systems need a whole lot of institutions immediately because although SHW could build big irrigation networks there is no such institutionalizing that would undertake on-farm services. To be capable of building irrigation networks does not necessarily mean that you are capable of performing irrigation. It is not right to point fingers at the SHW but this institution is technically not capable of doing these things and cannot fulfil obligations so it is wrong to expect such a wish to come true. It could be very naïve to expect that SHW could do all this. SHW is inclined to work on some construction projects and if we see it that way the result is always different. We are in a position that there is a long way to go in opening agricultural fields to irrigation however this needs appropriate and careful processes of financial resource allocation and project planning. For the big irrigation projects, SHW could build them but we in fact need institutions that would enable agricultural development services and for this we need secondary institutions and not SHW. I think such an institution existed, I mean the GDRS, but it is already abolished and substitute institutions weren't set up (Senior TEMA engineer, Rural Development, pers. comm.).

There is an obvious fragmentation of organisations and their legislation. There are several striking examples of this. For instance, there is a separate technical organisation, Electrical Power Resources Survey and Development Administration (EPRSDA) that was formed in 1935 (Republic of Turkey 2003).[29] Its primary task is to survey water resources for their energy potential and conduct engineering studies for energy production, not only from water resources but also wind and solar energy (Yildiz 2008). Like SHW, EPRSDA also undertakes hydrological works. It does river basin-based surveys but for energy purposes; on the other hand, SHW also builds hydroelectric plants. It is interesting that SHW functions are based on its organisational law instead of on water legislation that manages water resources. This means that in Turkey there is no direct legislation for water, instead the legislation focuses on the institutions that govern water. Water is legislated for by proxy. A senior SHW groundwater expert stated:

> There is no 'water law'. We undertake all our functions based on organisational law. While SHW's main functions are spelled in organisational legislation, our work in the groundwater

[28] TEMA is an NGO that focuses on land resources and soil protection in Turkey and works with farmers in the rural areas concerning the development of irrigation water.

[29] The organisation was initially formed to undertake surveys regarding the construction of the Keban Dam on Euphrates River and studying the potential for optimum use. Until the foundation of the SHW in 1954, EPRSDA was the key institution for systematic surveying of water resources in Turkey. EPRSDA's duty expands to conducting preliminary work for dams and hydroelectric power plants. Refer to: 'EIE'deki Istiksaf Calismalari' 2006.

> space is based on groundwater law. There is no umbrella law that could help us manage water resources. Where we need legislation about "water" that is why we look at the organisational laws of SHW and MOEF because these are the only legislation mentioning water. Statutory roles identify what happens to water and this obviously identifies the technical aspects (Senior groundwater expert, pers. comm. Refer to Table A.7 in the Appendix).

The non-existence of water legislation was mentioned by almost all of the interviewees as a negative component of the bureaucratic structure and sometimes an excuse not to have any policy (Senior groundwater expert, pers. comm.) as well as not to be able to do anything against the political nature of water projects (Senior SHW manager responsible for drinking water supply, pers. comm.). An assistant manager at MARA's agricultural reform department stated that:

> There is a need to question organisations. We do have problems in planning; SHW is not even sincere about the exact numbers of irrigated areas. We need to question organisations and what they are doing; however, this has not been possible because once we do that we are challenging the organisational philosophy and why we do have X organisation? It is directly related to their institutional interests. Current policies regarding water development, use and transmission is all about civil engineering but it is difficult to knock off the taboos in Turkey (senior MARA assistant manager of agricultural reform, pers. comm.).

A senior MOEF engineer mentioned the SHW mindset and its implications for water legislation:

> SHW's establishment law mentions wetlands and quality but because it is written with the 1950s mentality and the vision of the day it is about reclaiming wetlands to open these areas for agricultural activity. For water quality and pollution, it is really interesting. We have adopted the water pollution control directive and this Directive is relatively new. It covers a range of sectors, from industry to residential and is used by SHW, EPRSDA as well as the others. There is no other regulation of water quality. So the Directive remains single in this sense. Some industrial facilities were established before the Environment Code was passed. The Ministry (MOEF) was formed in 1992 and if you look at the industrial facilities, there is no such thing as a waste treatment plant in their set up for the ones established before the Environment Code. Now this is so interesting because some large-scale industries actually took advantage of the exemptions for a long time despite the fact that their pollution loads were incredibly large up until the Environment Code entered into force. Then we identified some penalties against these after the law. We revised the rules around these in the 2006 version of the Law. There are still some issues in terms of monitoring and auditing though. Because the compliance has been delegated to Provincial Environment Directorates there are a number of reasons that the audits are inadequate and you have some pressures around the compliance and contracting of people (Senior MOEF geology engineer, pers. comm.).

There is clearly a major issue around how water bureaucracy's actors perceive themselves and each other. This is problematic because the fragmented organisational structure reinforces and privileges some roles and lessens the importance of others. Fragmentation of organisations as well as the absence of a statutory mandate for the management of water resources leads to greater conflict and clashes of organisational interests and duties. A senior SHW groundwater expert explains the mismanagement of this organisational set up very well:

> If we have floods in Silifke and no water in Konya, that is a management deficiency. We need to carefully study statutory roles of the water bureaucracy which identifies the transactions of water bureaucracy. Consider Ministry of Environment and Forestry and

> disestablished village services.[30] While the former does not have any authority to punish industrial polluters for waste dicharges to rivers due to statutory gaps, the latter has been disestablished and its roles have been given to some 81 Provincial Administrations which do not have any expertise in the area and fall completely under the imposition of centralised politics and power (Senior groundwater expert, pers. comm.).[31]

This is also stated by a MARA assistant manager:

> You cannot manage Hakkari's water from Ankara. You need to identify water waste and prevent it. These are all policies, sustainable water and land policy. For instance, SHW does expropriation; nobody asks the questions of and studies of, for instance, how many tractors were purchased in that village? What happened after expropriation? What is the production prior to re-settlement and what happened later? Why was all rural development unsuccessful? Because mostly we do not evaluate and do the studies of what are the products that could respond to export and international markets? Rural development is highly linked to market based and consumer based production patterns. We do not have any production planning either (Senior MARA assistant manager of agricultural reform, pers. comm.).[32]

The head of the freshwater programme at WWF-Turkey asserted that every bureaucratic institution has different perspectives and approaches to water issues as well as facing an attitude from the bureaucrats of the kind: "why does a bird-protector NGO sticks its nose in water management" (WWF Turkey head of freshwater programme, pers. comm.).[33] They are concerned that this attitude makes it very difficult for them to explain their worries about the environment in Turkey and to disseminate the knowledge that things are not going right. For instance, they are against the inter-basin water transfers and advocate solving every river basin's problem in its own right (WWF Turkey head of freshwater programme, pers. comm.).[34]

This is consistent with the politicisation of water management which is well used by governments as a vote-buying exercise. Organisational restructurings are driven by political favouritism, reducing organisational capital and accumulated knowledge and wiping off once-successful institutional examples and policies for short-term gain. A senior SHW groundwater expert gave an example how water investments are a political gain:

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[30] GDRS remained a significant institution having a rural focus in water and land resources management at the local level. The institution was disestablished in 2005 by AK government's reorganization of public administration. Its duties were transferred to the Special Provincial Administrations (SPAs) that serves under the Ministry of Internal Affairs. The Directorate was originally established to undertake investments in rural infrastructure and development, such as building village roads, supplying drinking and irrigation water and reclamation in villages. Refer to Table A.8 in the appendix for a detailed record of the duties of GDRS. During the early years of the Republic, rural services became a major focus for Turkish governments. The GDRS has remained controversial since its formation. It is argued that this was because it never established a meaningful connection between rural development and national planning. See: World Bank (2006) and Cevikbas (2002).

[31] Author's interview with senior groundwater expert, 5 December 2006, Ankara.

[32] Author's interview with senior MARA assistant manager of agricultural reform, 7 December 2006, Ankara.

[33] Author's interview with the WWF-Turkey head of freshwater programme, Ankara, January 2007.

[34] Author's interview with the WWF-Turkey head of freshwater programme, Ankara, January 2007.

> This is an important subject, investment regarding groundwater is a fragile subject because groundwater resources are strategic in the case of chemical and nuclear warfare. Passing investment decisions from the Parliament is political due to the pumping sector being an incredibly lucrative sector then this means interest groups are pressing about these decisions to the Parliament and they can be rather effective and their final decisions can be very political. Drinking water is one other example of political processes in water management. It is one of the best agents to politically and appropriately meet the expectations of voters. Because of our statutory duties, we cannot intervene no matter how political it gets. Tenders for drinking water projects, for instance, are promises from politicians and they can be prioritised in the budget or might be technically planned and waiting for funds to be allocated. These are completely up to the promises given to the public and voters and can change at any time (Senior groundwater expert, pers. comm.).

The issue of political gain was also expressed by the Nature Society:

> We believe there are powerful companies in the construction sector and whenever we investigate further, we find the strong existence of these financially powerful companies. The Society believes this leads to the unnecessary exploitation of natural resources by construction companies and their financial interests yield most of the dam projects including the controversial Ilısu Dam on the Tigris (General manager of the Nature Society, pers. comm.).

The cause of inefficient water management systems is not only water being used for political gain, but also water governance being negatively impacted by random institutional restructures. A senior irrigation expert at the SPO briefly explained this phenomenon:

> Frequent change of human capital and restructuring in water institutions significantly affects the way we operate because one day you have an institution that sees a particular function and the next day somebody disestablishes the functions but does not fill the gaps created by removing those functions. For instance, the Village Services Department (meaning GDRS) was a technical institution, which had technical duties around assisting small scale irrigation in provinces; however, with the AK party being in government, this institution was disestablished and its functions were given to Provincial Administrations which clearly are not staffed for such a technical job and cannot fulfil essential functions (Senior SPO irrigation sector expert, pers. comm.).

In addition to the removal of existing and/or useful functions, when Government changes, it brings political patronage at the bureaucratic level, which culminates in government officials bringing their key people to key positions. An SPO irrigation expert explained why that might be a problem and how it prevents water governance and administration from improving:

> In the last government (AK) for instance, we are talking about really young staff being brought into some key senior positions which first, clearly means losing staff who know things and are experienced, and second, establishing distrust between former and new officials. One obvious repercussion of frequent restructures is that the time and resources spent on a project could be absolutely wasted due to the project not being valid any more based on the priorities of the government that comes to power. This resembles Mehter[35] and is extremely frustrating (Senior SPO irrigation sector expert, pers. comm.).

[35] A janissary ceremonial dance being performed with two steps forward and one step back.

In terms of favouritism, according to the Nature Society, there is another side:

> The Society believes institutionalizing concepts and new ideas regarding resource management is difficult in Turkey because of the favouritism occurring after new governments come to power. It is also not easy to develop an institutional strategy due to this reason in Turkish water management. The institutions seem to be more engaged in daily tasks and interests (General manager of the Nature Society, pers. comm.).

There is a negative interaction between Turkish civil society and water bureauacracy where the bureuaucracy's perceptions about what they are doing and how their culture works do not match what is actually happening. Fragmentation, politicization, centralism and heavy paternalism impact on a series of mismanagement practices within the water bureaucracy. This political culture that the water bureaucracy functions within is also impaired by a lack of transparency in the processes where monitoring and auditing are also insufficient (Senior MARA assistant manager of Agricultural reform, pers. comm.).

Increased environmental consciousness and public interest in water management could foster a debate about the water mismanagement issue in Turkey. In Turkey state-led development focused on industrialisation of the economy in line with modernisation attempts without much regard for the environment or the conservation of natural resources (Kadirbeyoglu 2010). This has not occurred so far due to the nascent civic culture in Turkey. While official national rhetoric emphasises the complementary role of environmental NGOs in education and awareness, it does not particularly support its mobilisation or the improvement of its conditions. It does not only situate them outside the political sphere, it also allowes certain demands to be heard by the public while ignoring other ideas (Islar 2012a). It is argued that SHW's water user associations, the transfer of irrigation management to water users, impacted on decentralisation of the irrigation administration where a democratic impact of empowerment was achieved and participation is observed when the conditions permitted (Islar 2012b; Kadirbeyoglu 2008). In recent years, some local activism in Turkey also blossomed in small towns where water is being privatised for hydropower plants. Some examples include southwest town Yuvarlakcay hydropower project where approximately 3000 people joined resistance to stop the project happening as they stood for the ownership of the river and stood up against the privatisation of water (Islar 2012b). These groups also united under a national water rights platform which was called Turkish Water Assembly (Turkish: *Turkiye Su Meclisi*). Turkey's first water rights movements (e.g. Yuvarlakcay, Karadeniz Resurrection Platform, Turkish Water Assembly) have emerged to challenge the privatisation drive concerning use rights of rivers for hydropower (Islar 2012a).

A senior MOEF engineer's considerations about environmental consciousness are somewhat like eating a dessert before eating the mains, that is to say a luxury more than anything else:

> Consciousness about the environment is increasing. Once, people tended to think that they would have jobs if there was new industry; but now people and communities living in these areas are no longer willing to accept this and they think industries should be shut if it harms the environment. The Yatagan [a district of Mugla in the southwest of Turkey] thermal power plant for instance, if you remember, once people were looking at it for jobs and food but now they say it should go! It is what I call experience; you can only understand someone who fell from a tree only if you also fell from a tree. If you feed someone with baklava when

> they are hungry they would not want to eat it, and for Turkey the environment is like baklava, it is a luxury (Senior MOEF geology engineer, pers. comm.).

It is interesting that the same senior engineer commented that: 'local self-government is good and appropriate because of the fact that if I hardly understand what a person talks about there is little chance that I can respond to their problems and needs, so delegation of authority is good' (Senior MOEF geology engineer, pers. comm.).

There is also a negative perception in the water bureuacracy regarding NGOs. State departments mentioned when interviewed, that they did not find NGO work sincere and bona fide; on the contrary it is usually found to be misdirecting the public (Islar 2012b).[36] Two statements below provide good examples of this:

> I believe they sometimes misdirect the public with their actions. For instance, activities around wetlands are a good example (Senior SPO irrigation sector expert, pers. comm.).

> I don't see NGO work as bona fide. I have experienced and have seen many examples for me to think that way. Wetlands are a good example: they identify and use certain numbers to identify these areas. Sometimes, based on these definitions the whole area is a wetland. These numbers are usually prepared based on international conventions and agreements. These conventions accept totally different criteria in the identification of a wetland. I do think some of these approaches in these international agreements are entirely political and the criteria are political. Once you have set that up based on these numbers, you have your hands tied at once because you have stated that this area is sensitive and nothing can be done. But that is not the case in reality. But NGO approaches are not that way. They want the whole Ataturk dam area to be a wetland. I have observed that their attitudes to these topics are usually targeted at a single species or a particular wetland or a protected area. This is what usually disappoints me with NGOs. We are aware that there is an ecosystem and they pick that animal and this plant among hundreds, thousands of species, this is problematic (Senior MOEF geology engineer, pers. comm.).

In summary, Turkish water management lacks coordination and is highly fragmented. These characteristics might be found in other countries' water management systems. However, the nature of Turkish political culture with its paternalism, political favouritism, and technocratic tendencies exacerbates the negative aspects of fragmentation and lack of coordination. This creates a vicious cycle where the negative characteristics of the bureaucracy reinforces the political culture, and vice versa. More importantly, it reveals the undemocratic nature of water management in Turkey.

4.3 Political Culture of Turkish Water Bureaucracy and Its Compatibility with IWRM and the EU

Based on the implications of the outlooks in the interviews, there are certain cultural backgrounds within which the water bureaucracy operates. The major bottleneck is obvious: the EU demands of Turkey do not fit with Turkish water bureaucracy's

[36] Islar (2012b, pg. 327) gives a striking example to this attitude in her work: *State ownership of rivers is internalized in a way that even its discussion is controversial and perceived as a threat to national security. It is not surprising that some state officials and even the Prime Minister occasionally portray environmental activists as terrorists.*

perceptions and practices in water management. This section demonstrates perceptions of IWRM and the EU and how that mentality impedes 'integrating' water management. The responses I got from the interviews can be separated into three categories: optimists, pessimists and safe public servant attitudes where the interviewee either gives overconfident and representative answers, or they are very vague, such as saying 'we are working on it', showing non-transparency and closed knowledge.

IWRM is the core of the EU Water Framework Directive and every department has different views about what IWRM is and how Turkey might carry out its implementation. Responses were surprising at times. For some officers, "IWRM is very desirable" (Senior EPRSDA hydrologist, pers. comm.), "water and land resources should be managed together" (Senior SPO irrigation sector expert, pers. comm.), and "there is a need for IWRM in Turkey" (Senior MARA assistant manager of agricultural reform, pers. comm.). Some said "IWRM is a chessboard" (Senior SHW engineer and assistant head of planning department, pers. comm.) and "an Achilles heel" (Senior MOEF geology engineer, pers. comm.). In considering whether Turkey could achieve IWRM, officers agreed that it is a challenging proposal. One senior SPO irrigation expert highlighted the fact that it is difficult to achieve because of a differing attitude. There might not be anything to stop Turkey from implementing it if that attitude is altered, but challenges still exist:

> In river basin management especially in water management, there are major drawbacks considering administrative boundaries of the river basin. Water management should not be done that way. Turkey can easily follow holistic approaches but to do that we do not necessarily need one water organisation dealing with stuff about water, it is a matter of attitude in the organisations having set up a platform that could discuss issues accordingly (Senior SPO irrigation sector expert, pers. comm.).

Some others thought "it was a technical endeavour where you had to be sure what you are doing":

> There should be a cycle to achieve this: for instance one should start with the legislative arrangements and bureaucracy and governance fit into this legislation. Then technical considerations should be taken into account as an important input in the cycle. I believe the technical is quite important in this equation, and it should be the pivotal aspect of the policy activity and the regulations (Senior groundwater expert, pers. comm.).

A MOEF respondent understood 'technical' differently and added that IWRM has a technical and a political component where political involves the politics of the management of transboundary water basins and the related national security/sovereignty matters. For instance, IWRM, especially the 'integrated' part, can be used by lower riparian countries on transboundary waterways as leverage to demand water from upper riparian countries. His opinion of using jargon such as 'ecological basin management' was that it reduces Turkey's vulnerability in international water disputes. This shows the political dimension of different words when used in water management discourse:

> There are two aspects with the basin-based management approaches. You have the technical and the political. If one asks about the political aspect, my answer would be different wearing a different hat other than public servant because it would then be different. In some

> river basins we are upper riparian and in some we are a downstream riparian country; now that means we should rather use an ecological approach instead of an integrated basin management. Ecological basin management is a more realistic jargon. Now why would somebody get into a disadvantageous and an unfavourable situation? (Senior MOEF geology engineer, pers. comm.)

Some SHW officers agreed that national security issues might inhibit the implementation of IWRM, especially with the unclear meaning of the concept:

> I think integration could mean different things to different professions and transboundary water resource management is a difficult job so no surprise that it is an inhibition to the implementation of IWRM (Senior SHW expropriation officer, pers. comm.).

The question of whether there is already an inhouse application of IWRM as defined in any of the departments was also interesting. For instance a senior SHW planning officer said:

> What I understand from integrated catchment is to prepare master plans to use water resources in an optimum way. If you ask, we have been doing that since the 1950s in the Euphrates-Tigris and Black Sea regions. We evaluate the land and water resources, if it is a city and a forest, it is not our business. The concept includes many parameters but what we do is the project aspect of things. I think, IWRM is a chess board and you need to work together to achieve different areas of responsibility. To me, integration means to win the basin in every way and the approach behind that is balancing the costs and benefits. Turkey has decided to execute IWRM but you need to wait for the proper environment to do so (Senior SHW engineer and assistant head of planning department, pers. comm.).

Another senior SHW officer also stated that the SHW's perspective is integrative: it takes the environment and human-based economic viability into account in their projects, as well as purely technical engineering parameters (SHW head of department (Projects and Construction), pers. comm.). While this perception was integrative, some SHW colleagues did not agree. For instance, a senior SHW groundwater expert stated that:

> We are not doing IWRM but basin planning. The SHW is an investment organisation which does surveys and master plans and the construction of dams is being completed under a basin planning mind set, technically and economically evaluated. An integrated basin structure cannot happen in Turkey the way we operate at the moment. We do have a policy of not having any policy (Senior groundwater expert, pers. comm.).

A dams engineer from another SHW department highlighted the fact that integrated approaches do not seem to be applicable to something as complex as water management and gave flood protection as an example of this:

> If you had a flood prevention project, you might need things like expropriation, construction contracting, etc. Then the municipality comes and executes its own plans in the housing and city planning context in your flood area and perhaps you needed to build canals and reclamation in the river bed but because that area has not been urban planned and flood considerations have not been taken into account, your planned canal needs to cross through an apartment. I do not think this approach is possible to implement (Senior SHW engineer, pers. comm.).

In terms of expropriation, a SHW officer also highlighted the fact that technical activities are purely based on civil-engineering. For instance, SHW project expropriations

are organised at administrative boundry levels, such as village and provinces, rather than at the river basin boundaries as IWRM would suggest (Senior SHW expropriation officer, pers. comm.). This indicates that most of the river basin operations undertaken by SHW do not match with the actual river basin boundaries and are treated at the political boundary level. Moreover, this leads to technical and social issues not being treated equally because they are dealt within a purely technical engineering manner.

In relation to provincial and rural boundaries relating to agriculture, rural development and liveable spaces, a MARA officer commented:

> There is a need for IWRM; however, not only water management, Turkish agriculture is required to change as well in the EU process. We have a huge rural population and you have got to start from the rural to be able to prevent pollution because it goes hand in hand with rural development (Senior MARA assistant manager of agricultural reform, pers. comm.).

A senior MOEF engineer provided clarification as to why IWRM is problematic given the priorities of Turkey, as opposed to European countries, and why the latter might favor a system such as IWRM:

> Think about a city in the farthest southeast Anatolia, say Hakkari. Now Hakkari does not have any industries, it might have a small scale wheat and flour industry or a mill, but not a heavy industry, or the opposite corner of Turkey in the Ergene basin, standards for discharges in the receiving environment in this basin are only identified where pollution occurs, otherwise why would you introduce a new system while you do not need one. There is no need to go there especially when your country's realities are different than those of European countries and when we think generally people regard this as a sensitive topic to start water wars, with scarcity and controversy. Today I think European and developed countries have a river basin approach but, their approach has progressed alongside their priorities around water potentials and budgets, but Turkey's situation is not really like that. What I would look for: is there anybody that wants drinking water and cannot have it or anybody that demands irrigation water and cannot access it? No. So you have a system in place to which your realities are adjusted (Senior MOEF geology engineer, pers. comm.).

The same officer also talked about how technically these realities might be adjusted by using existing legislation around a 'water pollution control directive'. This gave an idea of what, in reality, integration meant to him (it was his own opinion and did not represent that of the Ministry):

> So you pick a basin and say it is a big one and you know your sub-basins and water uses in these sub-basins. To be able to benefit from the water, SHW is expected to do the basin use plans and you will see SHW puts a bunch of dams, say for the purpose of flood protection, energy, irrigation etc. So you have planned all these and you go ahead with some of them (and construct) and that's where river basin protection plans come into the game. The second step is the basin protection. To be able to sustain these uses and their variability, I need to make sure that there are protection measures. So that's what river basin protection planning is all about in the (water pollution control Directive), this could well be a system that we can go through if we are required to do an integrated water management for the EU Directive (Senior MOEF geology engineer, pers. comm.).

These interviews have shown that the perceptions of IWRM are both optimistic and pessimistic, and that interviewees' perceptions on how to implement IWRM (and the EU WFD) in Turkey are also mixed. No doubt there is ongoing work to examine the issues and possibilities of IWRM implementation in the EU accession

in Turkish government departments as well as with Turkish NGOs.[37] Turkey is not unfamiliar with pilot projects using IWRM-like practices.[38] While there have been pilot IWRM projects these have a low public profile and have not helped to bring a debate on IWRM into the public sphere. The challenge of potential EU accession for Turkey would be immense, a challenge made even greater by a domestic political culture that has not included the public in debates about water issues that will feature prominently in the accession process. The water bureaucracy does not consider IWRM-like reforms for the sake of genuinely improving water governance in Turkey, but rather it considers just complying with EU accession demands. Some officers expressed the view that implementing and adopting IWRM is problematic but also possible and full of opportunities:

> Turkey is a massive country and this geography makes the EU accession issues more problematic; none of the EU countries compare to Turkey. In addition to that is Turkey still hasn't developed most of its water resources. All of these make EU harmonisation very difficult, because while we want to develop our resources, we need to make sure we meet the demands of the accession. I believe this is a good thing as Turkey could plan for both in this process so I am optimistic and believe that we are not following behind but are in front. There is ongoing work, which is looking quite positive for Turkey (Senior SPO irrigation sector expert, pers. comm.).

Some others were less optimistic about the prospect of applying a European system. A senior EPRSDA engineer considered Turkey can have an integrated European-type system, and it is very desirable, but he said that the Turkish planning system does not work that way:

> In fact, Turkish bureaucracy is often beating the air [Turkish: havanda su dogmek] in this area. I have been to Netherlands and they do these water negotiations; I would not imagine that could happen in Turkey (Senior EPRSDA hydrologist, pers. comm.).

Some officers considered the EU Directive to be a tricky piece of legislation not only because Turkey does not have similar systems in place but also the core of the Directive might bring different perceptions about water being an economic good and make water management and governance processes more political and troublesome:

> The first article in the EU WFD states that water has a heritage and culture. Turkey should focus on the meaning of this article as this accepts water is not a commercial product like any other but something more precious and we increasingly need to recognise water as an economic good that has many different values behind it and price it accordingly (Senior groundwater expert, pers. comm.).

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[37] While trans-boundary water resources and sectors other than drinking water have been considered by the MFA, in areas in which EU financial assistance can be used, such as drinking water quality, other related organisations are doing some work.

[38] A EU project (MATRA) had established a pilot practice of the idea in the Aegean region in Buyuk Menderes river. WWF Turkey has projects specifically promoting the adoption of IWRM. It has been working in Konya, Susurluk, Kızılırmak, and Gediz basins for several years and undertaking projects that aim to ameliorate the unsustainable irrigation water use in Konya Closed Basin and help farmers to accommodate water saving irrigation practices (See: WWF-Turkey, 'Konya Havzası'nda Entegre Havza Yönetimine Doğru' no date. Also see WWF-Turkey (2006).

He clarified this by giving the example of groundwater resources and pollution as it relates to the content in the EU Directives, such as the EU Groundwater Directive. He also highlighted that the countries of Europe have differing water management problems which cannot be approached in a single manner, and therefore Turkey must be cautious:

> This needs to be carefully assessed. We might mess up pollution issues by introducing complex regulations. The Ergene river and industrial water pollution is a good example of this. Turkey does not have audit and supervision mechanisms over its water management as Europe does. We would have incredible amounts of challenging areas if we wanted to implement the Groundwater directive because we even have challenges with other institutions in Turkey in most of these areas. Turkey has got to be careful in considering the EU Directive. If we look at countries such as Netherlands, Britain, Belgium, Ireland these countries' main problem is to get rid of excess water as opposed to countries such as Portugal, France, or Spain (Senior groundwater expert, pers. comm.).

While the state officers perceived the issue as challenging and acknowledged the existing work, they also consistently highlighted, one way or another, the role of the Ministry of Foreign Affairs and how it is involved in internal water affairs and public administration. The MFA has a rather confusing role. Beginning with the EU membership discussions in the late 1990s, the Ministry was heavily involved in water issues, whether of a trans-boundary nature or the issues of transposing EU water legislation into Turkish legislation.[39] The organisation took a more active role as an authority, in terms of designating the boundaries of national interest and conclusively deciding what was acceptable to include in the EU harmonisation process.

To many, MFA is Turkey's most competent government organisation with a wider view, one would have thought the MFA could be a useful counter-influence to the internal technical orientation and help reduce the bottlenecks of the EU process, which is still a foreign policy process and the Ministry has responsibilities coming from the Law. The MFA could be particularly important in terms of bridging between the EU and the internal approaches. However, it appears that the role of the MFA makes things more complicated without having any positive effect on the better governance of Turkey and it has not quite fulfilled its role as a coordinator and mediator. The issue is perceived as a matter of national security and sovereignty. It is also interesting that, most stakeholders in Turkey agreed with trans-boundary waters being a national security issue, considering Turkey's biggest potential rivers are trans-boundary ones where a number of water development projects could occur, and some have already occurred. For instance, the NGOs, which had by far the most liberal views about IWRM, had fascinating responses regarding the involvement of the MFA. Some expressed the view that it is understandable to have the MFA involved because of the sovereignty matters (Nature Society wetlands coordinator,

[39] European Commission produced a selection of reports in 2004 regarding Turkey's accession and the EU's expansion. These reports mentioned the use of water resources in the Euphrates and Tigris river basins and made a reference in the perspective of EU if Turkey becomes a member country. The perspective discomforted Turkish authorities because the report pointed out that the Euphrates and Tigris shall be considered for a common use in the region including Israel. For a legislative analysis and content of the report please see Yalçınkaya (2006).

pers. comm.). Others said that despite the involvement being strange that the MFA is obviously involved because of Turkey's concerns regarding trans-boundary water management. They also added that this position is in line with the strategic realities and priorities of Turkey's approach identified by the MFA (WWF Turkey head of freshwater programme, pers. comm.).[40] Some state officers refrained from talking about the matter of IWRM and the EU WFD solely because of the involvement of the MFA and because the subject matter is about national security, some even responded to questions in an antagonistic manner because of this fact (SHW departmental manager (operation and maintenance), pers. comm.). Some officers from BOP, for instance, used the MFA involvement as a reason not to talk, stating: "I cannot talk about X because it is a foreign policy issue and MFA deals with it" (Senior BOP engineer at international relations unit, pers. comm.).[41]

4.4 Water Framework Directive and Turkey's Current Water Policy: Technical Issues or Attitudes?

The European Commission released Turkey's progress report in October 2012; the topic of this book relates to environment chapter generally, and water section in particularly. The report is quite telling as to whether Turkey has just legislative, administrative and technical issues in its water management or is the problem more to do with how Turkey perceives these issues and what is being done about them: which are the collective attitudes held by government and the political culture of its water bureaucracy.

While the report acknowledges Turkey's ongoing and previous work, highlighting the adoption of recently drafted water law and the establishment of a national water institute in 2011, it conclusively describes Turkey's progress as 'uneven' and emphasizes 'no progress' being made. This is especially true with regards to horizontal legislation, strengthening of administrative capacity, as well as the environmental coordination and cooperation capabilities of the well-entrenched staff at the newly restructured and named ('old wines in new bottles') Ministry of Environment and Urbanisation (European Commission 2012). Surprisingly, the report extrapolates the main issues of Turkey's complex water policy framework in two pages, but also reflects on how Turkish political culture looks from the outside and particularly focuses on water issues. It is no surprise that the Commission expresses concerns in the areas where attitudes to water management matter instead of passing a series of water legislation just to simply align with the EU mechanically:

[40] Although she noted that: *not quite sure if the resolution of conflicts in the Euphrates-Tigris river basin and water issues should be prioritized over other significant nation-wide water issues of the country*, *such as overexploitation of groundwater resources and water supplies of big cities*.

[41] At this interview, the officer asked me to check with the MFA whether my book topic is an appropriate research.

> Last year's comprehensive reorganisation resulted in a fragmented allocation of responsibilities in the field of water and nature protection the newly created Ministry of Environment and Urbanisation (MoEU) a balance between the environment and development agendas has still to be found and there are in particular concerns over the lack of attention paid to environmental considerations in the implementation of major infrastructure projects, as well as the willingness and ability to ensure a meaningful public consultation process, including with environmental NGOs. There are some concerns related to the loss of provincial competences in the field of environmental management, in particular as regards to inspection, monitoring and permitting (European Commission 2012).

Turkey more or less, has been working to address these issues since the EU membership idea became possible with the candidateship accepted in 1999 and negotiations with the EU opened in 2004 and when the Community announced its common water policy (WFD).

Some recent examples of change are the restructuring of departments as mentioned before, where Ministry of Environment and Forestry became two different ministries: Ministry of Environment and Urbanisation and Ministry of Forestry and Water Issues. SHW became part of the latter and a separate water management directorate has been formed under this Ministry. A draft water law has been adopted and the Ministry of Forestry and Water Issues is now consulting with other organisations on this. The Ministry recently released a 'Draft National River Basin Management Strategy (2012–2023)' where the aim is to protect, develop and sustainably use river basin natural resources in the country. This aims to guide Turkey to the long-term decisions and investment programmes, and meeting Turkish society's demands from river basins' socio-economic and ecological benefits and services in an adequate and sustainable way (Ministry of Forestry and Water Issues 2012). Despite this ambitious aim, the strategy is said to be consistent with the EU standards and prioritises, national needs as well as supporting the sustainable development agenda in Turkey.

In late 2011, the AKP government established the SUEN (Turkish acronym: *Turkiye Su Enstitusu*, Turkish Water Institute) with a decree law. The institute is based in Istanbul and its job is to channel and direct the future-focused water policy work and to develop Turkey's short and long term water management strategy. It has also been given a coordinating role between the water-related bureaucracy and organisations for producing research and information as well as undertaking research regarding foreign and international organisations' water policy work and it will produce information and statistical research (Milliyet 2011).

As recent as March 2012, Prime Minister Erdogan released a circular that forms a high level 'Council for Water Management Coordination'. The Council is tasked with indentifying measures required for protecting the water resources as it fits with an integrated water resources management framework, and to ensure inter-sectoral coordination and collaboration for effective water management. This involves, as well as speeding up investments, developing strategies, policies and plans for realizing the targets in national and international documents, assessment of the implementation of river basin plans by public organisations in order to ensure high level coordination and collaboration (Republic of Turkey Official Gazette 2012).

The Council is to bring several Ministries together under the presidency of the Minister of Forestry and Water Issues.[42]

The adoption of water acquis (EU Community Law) has also been supported with a number of project-based works in the last decade (ORSAM 2011; Sumer and Muluk 2011).[43] These projects affected legislative developments, restructurings in the bureaucracy and the water debate in Turkey conceptualising what WFD will mean for Turkey. However, the scale of how receptive they were to change varies and is still open to debate. While some of them led to producing more legislation and more water departments, some others enhanced the 'conversation' among the Ministries and stakeholders. While some resulted in producing reports and recommendations, some involved trying to understand what the EU system involved by exchanging staff. Scholars believe that these types of projects will only increase and become more important since the Environment Chapter negotiations between Turkey and the EU were opened on 21 December 2009 (Sumer and Muluk 2011).

Not only at the governmental level, but also at the civil society level a debate has been generated. Much recent localised water rights activism such as, Turkish Water Assembly, professional organisations such as Union of Chambers of Turkish Engineers and Architects (Turkish: *Turk Muhendis ve Mimar Odalari Birligi*, TMMOB) as well as business associations such as, USIAD (Turkish: *Ulusal Sanayici ve Isadamlari Dernegi*, National Association of Industrialists and Businessmen) have been working towards creating an agenda from their own points of view (Kibaroglu et al. 2009). A Turkish think-tank ORSAM (Turkish: *Ortadogu Stratejik Arastirmalar Merkezi*, Centre for Middle Eastern Strategic Studies) has been producing water policy pieces and following the Turkish government's recent work in areas such as draft national water law and the harmonisation of the WFD (ORSAM 2012). There is no doubt that a debate has been generated partly due to the EU process but also old and perpetuated problems of Turkish water management getting more and more obvious when a EU lens has been projected on them.

While most of these efforts are clearly towards understanding what the WFD means for Turkey and trying to address the major challenges of Turkish water management before the adoption of the WFD, they also seem to be superficial quick fixes to a much more embedded and complex problem. There are strong push-backs in terms of the water management culture from these embedded features in a way that almost neutralise the good things that happen to it. Take the Draft Water Law, for instance. This has been talked about and in a preparatory stage for many years (Kibaroglu and Baskan 2011) and for some in the profession this is a long awaited development, so it is good to see it finally presented for consultation. It is expected

[42] These are: Ministry of Environment and Urbanisation, Ministry of Internal Affairs, Ministry of Foreign Affairs, Ministry of Health, Ministry of Food, Agriculture and Livestock, Ministry of Science, Industry and Technology, Ministry of Energy and Natural Resources, Ministry of Culture and Tourism, Ministry of Development high level representatives as well as director generals of Water Management Directorate, State Hydraulic Works, Combating Erosion and Desertification, and the head of Turkish Water Institute (SUEN).

[43] Turkish government's work in this area is described and discussed in detail in Sumer and Muluk (2011) and ORSAM (2011).

to address the issues of fragmentation in the water bureaucracy, tacit use of stakeholder participation, empowering local water management and balancing investment-production discourse with that of water protection (Sumer and Muluk 2011).

While many are in agreement that Turkey needs such a law, the new law does not really get to the bottom of the issues of mandates, fragmentation and transparency of who does what, why and how. Some scholars argue that the Draft Law is so ambiguous and does not really have clear legislative language, especially given that the organisational mandates are not clearly described, this could be disastrous in terms of how it is implemented and practiced solely considering the Turkish context, let alone considering a European alignment context (SU-TOPRAK-ENERJI 2012). A major example given in this area is the sector of agriculture. Agriculture is the biggest water user among Turkey's economic sectors and it argues that despite the emphasis 'river basin-based management' in the Draft Law, nowhere in the Law is it explained how agricultural basin activities are going to be aligned with physical river basin boundaries.

Again, based on some recently scholarly assessments of the Draft Law, it is argued that while the Law generously talks about allocation and planning of water, there is no talk of mandates, and the responsibilities of institutions are explained in terms of what happens in post-planning and allocation of implementation. In addition to that, because the Law is not clearly written its interpretation courts could highly subjective. Some scholars also made the point that regardless of what the law says; the Draft Law was the production of SHW (as usual) and despite the growing interest of stakeholders and civil society organisations and their ongoing contributions to the water debate in terms of what should an ideal water law look like, they have not been in the 'official' debate where they could not really influence the final outcome or the policy (Kibaroglu and Baskan 2011). While stakeholder participation is accepted as a valid concept to have, when it comes to fully implementing such a concept and allowing stakeholders to work with traditional accepted rules, the ability to impact on the final decisions are almost nil.

A strong paternal state and its investment decisions demonstrate that the language of water management in Turkey is still: water should not flow for nothing and should not be wasted to sea. The EU is a positive influence and example for a number of 'good' things but the EU also is 'the other' for all these organisations and for Turkey, this relationship was always like asking Europe 'what is my homework then?' and answering 'I could do that homework by passing some laws instead of what I truly need to do'. The EU does not at all times represent the 'true best practice' but it is most important to understand and see its positives, and be inspired by it to look at Turkey's own systems in a critical manner.

4.5 Conclusion

This chapter has shown how Turkish political culture has developed from its emergence during the Ottoman Empire through to the early Republic and into modern Turkey. The founding principle of this culture was an ummatist world view which

in modern Turkey has developed into a heavily paternalistic state. This political culture has shaped the development of Turkish water bureaucracy. This bureaucracy can be characterised as technocratic, elitist, and opaque. The Turkish example shows how the engineering discipline, as a closed knowledge system, confines water policy-making and exacerbates the untransparent, suppressed elements of the Turkish political culture. The engineer-bureaucrats' role in Turkish water governance meets a paternalistic ummatist political culture, both of which are socially constructed in the way they influence each other, and creates the mismanagement phenomena in Turkey.

Turkish water management is heavily influenced by the political culture of Turkish water bureaucracy. This bureaucracy has deeply embedded, in other words socially constructed, components that inhibit an IWRM mindset and intrude on water policy and decision-making. Its political culture comes from a long tradition of paternalism and apathetic citizenship where the government's role is perceived as a father and the citizen's role is to be thankful in return. It is difficult to eliminate the effects of political culture in the policy-making process.

In the most commonly agreed IWRM interpretation, the concept requires a democratic definition of active stakeholder participation and comprehensive integration of water and land resources. Given the existing political culture and attitude in Turkey, water management is reduced to a large-scale engineering exercise where it feeds from minimum public input but a highly political process and therefore it seems unlikely to implement the IWRM concept. Moreover, this political culture shapes what water bureuacracy understands from IWRM and how it thinks it should be implemented. Since the meaning of IWRM is socially and historically constructed and shaped, the application of the concept becomes more ambitious than anything else.

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Chapter 5
Water Transfers and Turkish Political Culture: Melen Case

Turkish water bureaucracy operates within a strictly technocratic-engineering framework that has a paternalistic view of its stakeholders. Chapter 4 demonstrated the main national character traits of this bureaucracy and its political culture. Turkish water bureaucracy decision-making occurs against this background in which deeply embedded social constructs negatively impact on the way in which water resources are managed and developed.

This chapter reveals these traits by presenting the Greater Melen Project, an inter-basin water transfer scheme that involves the construction of a series of large-scale engineering works to meet Istanbul's water demands. The Melen project is relevant because many aspects of its implementation, as well as the mind-set and philosophy behind its formulation and decision-making, illustrate social constructions of water management unfavourable to IWRM. Technocratic engineering oriented policy-making at the institutional level fits well with Turkish politicians' paternalistic public administration. With patronage networks and a frail civil society, this becomes a perfect environment for powerful economic networks such as construction companies and credit institutions. The bureaucratic environment in which water is 'administered' in Turkey makes IWRM ideals of democratic, equitable and transparent water management and governance difficult to achieve.

As a large-scale inter-basin transfer scheme, the Greater Melen Project illustrates how Turkish political culture in general, and the every-day decision-making of water bureaucracy in particular, operates in a way that contradicts IWRM implementation in Turkey. This political culture becomes a real ingredient in the making of water management decisions that negatively impact upon natural and socio-economic systems by giving them minimum priority and importance. Not only does the paternalistic bureaucracy, but also the passive and apolitical civil society marry well with the final decision-making of bureaucratic institutions where a poor understanding of stakeholder participation exists. The functioning of the Turkish political culture does not exactly match the ideals and values of IWRM.

This section proceeds in three steps. First, inter-basin water transfers (IBWTs) are described. What are they? Why are they used and what are their economic benefits?

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_5

It also raises the question of what is wrong with them and why they still occur given the enormous public controversy that they generate. Secondly, IBWTs are elaborated on in the context of IWRM and whether IWRM values are represented in IBWTs. This section draws on the argument that IBWTs and their construction and implementation do not match IWRM principles. The last section uses the Melen case both to illustrate the conditions of political culture in the Turkish bureaucracy and the way that its practice is incompatible with that of IWRM principles. IWRM adoption becomes impossible in this mind set and so does the harmonization with the EU-WFD.

5.1 IBWTs: What Are They?

One of the most precious resources of our globe, water, is not always available when and where it is needed. An increasing world population does not make the issue of freshwater scarcity any easier to deal with. Meeting multiple and growing demands for water use including drinking, sanitation, hydropower generation, food and fiber production requires further alteration, intervention and physical utilization of the earth's limited water resources. In the past such water stresses were deferred by importing large amounts of water from one place to another by physically intervening in river and freshwater systems by engineering means. Technical advancement in engineering enabled increasing consideration of connecting water-constrained and abundant areas to solve water shortage issues because the facilities (i.e. dams, pipes, and canals) became cheaper and more feasible to build (London and Miley 1990).

Water transfers are human interventions in river basins. They artificially export freshwater from areas of surplus to those in deficit (Davies et al. 1992). In this dualistic relationship basin transfers need a donor to give and a receiver to take water. In other words, water is spatially and temporally being extracted from a donor (assumed to be well-endowed with water) to a recipient area (assumed to be experiencing serious water stress) by significantly altering the freshwater system with transmission and diversion lines, canals, pipes, dams, and pumping stations.

IBWTs are, in this sense, purely technical construction-based interventions aiming to resolve unbalanced water endowment where there is not enough water but more than enough human demand (Cox 1999). The increasing mismatch between water shortages and rising populations provides a further rationale for IBWTs becoming sometimes the only viable solution to sustain continued wealth and survival. In fact, for that reason, they have been proposed and applied extensively around the globe: India's proposed giant National River Linking Project, China's grand North–south transfer, South Africa's Lesotho Highlands Water Project, numerous transfer projects aiming to bring water to the western US, the former Soviet Union's Siberian rivers and many others from Spain, Brazil, Australia, and Canada. Behind this popularity, were the perceived economical benefits of the transfers. For instance, Turkey is a large country with a varying physical and human geography. Turkey has areas of high rainfall as well as rivers with high flow, meaning that

Turkey has large water supplies. Turkey also has the large cities, intensive industrial areas and extensive agricultural land, meaning that Turkey has large water demand. However, these areas of supply and demand do not always overlap and areas that require water are often a long way from the nearest source. Therefore, the solution that has been proposed is IBWTs.

5.1.1 Benefits of IBWTs

The first generation of transfer projects proved popular as significant viable alternatives to the option of having no water. In fact, in some cases such as in Los Angeles, they were regarded as the 'inescapable option' for solving a severe water supply problem. One of the obvious benefits of transfers was accelerated economic growth, where new water sources could produce benefits for irrigation, industry and services. These gains are simply transported from the donor basin to the recipient basin, since the freshwater resource is not being increased but just re-allocated.

Early 1970s academic literature on the subject shows that IBWTs were considered to "alleviate regional fears, overcome political resistance, avoid the litigation costs, and generally result in much more efficient utilization of existing supplies" (Howe and Easter 1971). Despite analysis of uncertainties and difficulties of constructing such projects, the benefits of IBWTs were set within a framework of rescuing water-scarce regions (Cummings 1974). Work on the subject two decades later also frequently defended the feasibility of IBWTs and argued for their benefits as long as their related costs were subject to full cost provisions, which made such schemes viable from an economic and social point of view (London and Miley 1990). For instance, in the US decision-makers often advised that water transfers would not harm the basins of origin nor the affected state economies (Howe et al. 1990). In Turkey, all of the above factors fit well with the water bureaucracy and are complementary with Turkish political culture where the paternalistic state makes it easy to overcome political resistance and the technocratic bureaucracy is keen on the most efficient technical utilisation of water resources.

Much recent literature enumerates the wide variety of benefits of IBWTs despite the fact that early twenty-first century large-scale water importation projects are much more controversial due to their complexity (Yevjevich 2001) compared to the smaller scale of their technically and economically easily implementable first generation counterparts (Golubev and Biswas 1985). For instance, some of the major benefits of India's national river linking project are claimed to be drought mitigation, increased agricultural production and fishing activities, better downstream water quality, augmentation of water supply, inland navigation, increased hydropower potential, and better quality of life by stopping rural migration and creating jobs (Thatte 2007). For one of the biggest water transfers in South Africa, the Lesotho Highlands Water Project, the benefits are counted as: creation of significant local wealth, low cost hydropower generation, increased social spending for communities, and increased tourism in the highlands area (Pittock et al. 2009).

A recent water transfer in Brazil, the Sao Francisco trans-basin diversion project, is expected to provide for the economic development of the drought prone northeastern region of Brazil (de Andrade et al. 2011).

While government bureaucracies make decisions based on these (sometimes perceived and sometimes real depending on what influences the decision-makers) benefits to go ahead with their water transfer projects, they are not without detracting factors. Past practices and ongoing examples of many IBWTs demonstrate that these projects have many weaknesses requiring their proper justification.

5.1.2 Criticism and Negative Impacts of IBWTs

IBWTs face rising criticism. First generation transfer projects were developed through a master plan, harnessing resources under an economic development mindset. While politicians decided these projects were perfect for increased growth, engineers produced projects that met these demands; obviously concepts such as integrity of ecosystems and stakeholder participation were not the popular paradigms of the day (Ghassemi and White 2007). IBWT proposals were aimed at correcting an accident of people and geography without necessarily getting into a deeper understanding of the systemic impacts of these large-scale schemes, which might have hidden costs. One of the main criticisms of transfer schemes is their lack of consideration of alternative options.

The new generation transfers have been increasingly criticized as to whether they are the best way of approaching water supply issues (Golubev and Biswas 1985). According to this argument, decision-makers do not look into options of water demand management, such as water saving, re-use of waste water and evaluating options of more efficient use of water, before commencing large diversions. For instance, WWF argues that diversion schemes in Greece, China, Peru, and Brazil demonstrated that decision-makers had biased opinions in favour of proposed diversion projects since they strengthened their political position, and their advocates had not devoted much attention into looking at other options (Pittock et al. 2009). In countries where the political culture has the qualities of a weak civil society and government's public administration processes are subject to nepotism, favoritism or patronage networks, sharing of these options and any honest debate are also suppressed and somehow are not included in the discourse that leads to the go-ahead of IBWT decisions.

Distribution of benefits between donor and receiving basins is also problematic. The critics argue that the construction of IBWTs encourages an abundance feeling in the receiver areas. The impression arises that the donor basin 'should' share its resources and benefits even if it incurs the loss of ancestral land, property and traditional means of making a living. Receivers often utilise transferred water wastefully and uneconomically, as happened in the Tegura Basin of Spain. Diversion projects create a new type of relationship between donors and receivers and redefine the concepts of wellbeing, economic development and dependency which might result

in potential conflicts. For instance, the Ebro transfer proposal in Spain created immense distrust by the public and triggered dissent in relation to the way it has been advocated and governed (Gupta and van der Zaag 2008).

IBWTs potential to trigger new conflicts among citizens is also partially related to the governance of these diversion schemes. IBWT implementations are usually handled with poor institutional and financial governance. Limitations of institutional and financial resources hinder sound stakeholder participation, cause inadequate assessment of environmental and socio-economic implications of transfers, and generate great uncertainty about the impacts of IBWTs so that it is very hard to justify these projects. They become viable only at the political vote-buying level, otherwise, the more they are explained at the public level, the more controversy they create. This reinforces the biggest criticism of IBWTs, which is the negative ecological impact, and environmental degradation they often create.

Ecological impact studies in the early 1990s showed that most IBWTs failed to incorporate wider integrated consideration of river basin functions. IBWTs were also found to lack monitoring mechanisms for predicting negative occurrences and to lack multi-disciplinary impact assessments, including socio-economic and ecological impacts (Davies et al. 1992). Furthermore, research supported the argument that IBWTs' impact assessments were somewhat haphazard, and often reactive rather than proactive (Davies et al. 1992). A striking reason for this is that the development and implementation of IBWTs proves costly. Considerable investment is required for a long-term sustained diversion of water from one area to another (Yevjevich 2001). In other words, the uncertainties and risks of diversion and transfer projects are inherent in the planning and implementation process. Though these uncertainties and risks are well known most of the time, these aspects of the diversions are rarely communicated to the public. There is a messy reality behind transfer projects due to complex physical components of donor and receiver basins. Even if all assessments are completed in full detail, transfers might still have unforeseen environmental impacts which are particularly difficult to forecast at the planning level. Poor governance of water transfers is normal under these uncertain conditions and can have long-term impacts on environmental and socio-economic systems.

Transfers reduce river flow and degrade environmental quality in donor basins as well as negatively impacting on species and aquatic life. In the preparation process, they prove costly but become even costlier as they proceed and when it is realized that there was no allowance made for mitigating actions that became needed. The negative environmental consequences of IBWTs are different in every case depending on topography, geology, hydrology and geotechnical issues (Ghassemi and White 2007; Gupta and van der Zaag 2008). Specifically for instance, the effects upon the biochemical characteristics of water are very difficult to predict (Gupta and van der Zaag 2008). IBWTs not only introduce costs and benefits that may be difficult to estimate and measure but also preclude alternatives that might have performed better in terms of costs, environmental, and socio-economic impacts.

5.1.3 Viability Criteria for IBWTs

Increased consideration of IBWTs led to increased discussion of costs and benefits of these schemes as briefly discussed above. Despite the initial optimism of first generation transfer projects, decades later, their viability is increasingly questioned. More importantly, discussions led to viability criteria for such schemes; if certain criteria are satisfied there is no detrimental effect in transferring large amounts of water.

Viability criteria are important to discuss and are relevant to the arguments of this book because the pertinent factor regarding the viability of IBWTs is that the criteria are regarded as a 'to-do list'; an attempt to acknowledge ways of offsetting potential detrimental effects of large-scale transfer projects. However, despite their existence and the fact that viability criteria have been well studied, the decision-making process for IBWTs is political and neglects the criteria because they add to the cost of a project and potentially hamper what is a vote-buying exercise. Decision-makers calculate these projects based on the power and influence they bring, instead of measuring the viability of the transfer projects from a socio-environmental impact perspective which usually does not enter decision-maker's equation. Then the viability criteria simply become a token exercise as opposed to a fundamental determinant when considering an IBWT. The fulfilment of viability criteria therefore is highly dependent on how the political culture of water bureaucracies operates to influence democratic decisions and the way that a political participation system is established might encourage or discourage wider debate around issues of IBWTs.

Different tools are used in the evaluation of IBWT viability including cost-benefit analysis, and environmental and social impact assessment. Cox (1999) suggested an efficiency and equity test for proposed IBWTs, and his criteria are well recognized internationally at water forums. Based on his proposition, IBWTs can be justified or rejected depending on their impacts upon economic productivity, environmental quality, socio-cultural qualities of life, and distribution of benefits (Cox 1999). So a transfer proposal can only be justified when:

- All other alternatives are exhausted in the area of delivery and future development of the donor basin must not be constrained by transfers,
- Comprehensive environmental impact assessments must confidently indicate that the environmental quality of receiving and donor basins will not be degraded,
- Comprehensive socio-cultural impact assessments must indicate there will be no serious disruption of socio-cultural quality in the donor basin,
- Benefits of IBWTs are shared equitably between donor and receiver basins (Cox 1999)

In addition to Cox's criteria, recent studies of IBWTs are not compatible with the whole-of-river-basin approach and should be relied on minimally no matter what they offer. In fact, a WWF study of IBWTs proposed an alternative in demand management[1]

[1] "It should be noted that the term "demand", in the context of water resources management, generally means requirements, and is very rarely used in its traditional economic sense. Indeed, very rarely is the concept of demand elasticity explicitly considered within the water planning process per se.

(such as, reducing water demand, re-use of waste water, promoting land uses that reduce water usage) that should be first explored, then supply management (such as, buying food/virtual water instead of transferring physically, desalinating sea water in metropolitan coastal cities). Only when IBWTs are left as the final remaining option should they be considered (Pittock et al. 2009).

Despite all these reasonable criteria IBWTs social, political, geomorphological and ecological consequences have, in the main, passed unheeded (Snaddon et al. 1998). While redistribution of water might be a reality that confronts water bureaucracies and decision-makers, whether large-scale engineering wonders are sustainable and holistic enough to maintain the river ecosystems is debatable (Gupta and van der Zaag 2008).

Criteria and assessments become very much 'procedural' as governments usually work together with their technical bureaucracies to get around them. Sometimes they do not even apply because of the powerful economic and political narrative and the relevant patron-client networks' promotion of these projects under the narratives of 'only chances' and 'has to be done'. In some instances the degree of water scarcity confirms this water narrative and the projects need to be implemented for the good of the local people. However, in most instances these narratives are false which is why engineering solutions are often controversial. Nevertheless, IBWTs are as popular as they were several decades ago, due especially to increasing water scarcity and stress under the influence of climate change and drought.

5.1.4 Why Do IBWTs Happen Anyway?

IBWTs involve serious alteration of natural freshwater systems. First generation examples of IBWTs all around the globe demonstrated that they could potentially deplete the natural capacity of rivers (Pittock et al. 2009). From an implementation point of view, without necessary technical pre-assessments, IBWTs result in serious negative impacts such as: water losses, reduced river flow, degradation of environmental quality, major interruption of natural processes, alteration of aquatic life, landscapes and terrestrial environments, as well as the freshwater ecosystem as a whole (European Environment Agency 2009).

In addition to environmental consequences, most transfer projects are being evaluated and constructed against a set of obvious scientific uncertainties and future costs to society and the environment (Gumbo and van der Zaag 2002). Despite this decision-makers still look at them as viable solutions in responding to water troubles and once they have been decided upon, there is usually nothing to stop them. Behind IBWT decisions, there are several 'social constructions' around the way we use

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Consequently very little is known about constructing realistic demand functions under varying socio-economic considerations. Expressed differently, it means that emphasis so far has been on supply management -that is, increase in supply is considered to be virtually the only management alternative- rather than consideration of demand management". See: Biswas (1983).

water and how it has been brought to us by which institutions and mandate. Finally, questioning of how these institutional functions are managed and governed socially and historically becomes fundamental in understanding why they are happening despite the fact that potential impacts are mostly known.

The first interesting phenomenon regarding the social construction of water transfer projects is what I will call 'engineer's (social) construct'. This refers to a complex phenomenon such as large-scale technical work on a natural system being part of the 'every day' activities of an engineer. Engineers' educational and professional backgrounds have taught them that an anthropogenic manipulation of the natural environment is the norm, therefore they will approach water management issues in this manner. They will look to solve issues of implementation rather than whether it is a good idea in the first place. From a purely theoretical point of view, all water development projects involve conveyance of water in some form or other. Therefore IBWTs can be regarded as the ultimate win in 'taming nature' and they are justified as legitimate ways of harnessing water, as that is the current and normal way of doing so. This brings a certain background and socially constructed legitimacy in regards to engineers' perception of IBWTs.

In contrast to other important elements, such as oil, natural gas or coal, water is renewable and it follows a pattern that is called the hydrological cycle. The route that water follows means that it does not necessarily get used. Some of it fills groundwater supplies, some transcends regions, and some erodes terrestrial environments and crosses vast lands. When water becomes stored in lakes engineers tend to think of this as a surplus and when it enters the sea they can regard this as a missed opportunity. Perception around surplus leads to another perception that we 'should do something with this or else it is wasted' or 'we can easily use it to make up for deficiencies in X areas'. In other words, there is a 'surplus is waste' construct, which particularly helps in reinforcing the viability argument behind the transfer proposals, especially where decisions can be politically justified.

In terms of economic benefits, transfers and the surplus construct become even more interesting where the main parties involved in water transfers might get into a controversial relationship. Caulfield (1986) argued that no state would object to the export of non-renewable resources, such as oil and coal, but they would for water. The paradox he spotted here was under appropriate statutory conditions, water can be exported for a number of years and the donor can control the amount of water delivered and perhaps claim its water back depending on the conditions and based on historical water rights (Caulfield 1986). Regardless of the particular arrangements for water transfers donor and receiver basin communities enter into more complex relationships due to the cost-benefit nature of their interactions. This could lead to conflict depending on how desperately the receiver basin community needs access to water and for how long. Conflict also arises from how much control a donor basin can maintain. This is the 'dependency construct', which changes historical and social patterns of water use. It also changes our understanding of concepts such as scarcity, surplus, deficiency, drought, and stress where the usage of these words might encapsulate different meanings depending on whether one comes from a donor or receiver basin.

Proposed IBWTs are usually aimed at removing concerns about the geographically uneven distribution of water. There is an uneven distribution of precipitation and a spatial disparity in the location of land and water resources. This is the natural phenomenon that exists independent of our grand economic plans. To decision-makers, this unfortunate mismatch can be corrected by human intervention in nature. The correction can come in various discourses depending on the qualities of the particular political culture. For instance, the South–North Transfer project in China represents the use of such political discourse over food versus water. This project involves transferring an immense amount of water from the water-rich South to the water-poor North. This occurs with a background of food transfer taking place from the food-rich North to the food-poor South (Gupta and van der Zaag 2008). Having decided to implement such a project it sounds as if there is no viability behind it given that the water transferred North is imported back south embedded in food, a virtual water transfer, carrying a much more expensive price tag. Whilst there are no obvious advantages for the South in doing this, it still occurs because the political culture in China works that way, making such projects politically attractive and feasible even if it is against the public will.

For some other political cultures, IBWTs might not only be quick fixes to respond immediately to water stress in economic heartlands but also might be an opportunity to boost certain areas economically and close the gap between poor and rich. This makes IBWTs part of a bigger national development discourse. In this case, they are envisaged to make up for inequality and regional disparities which might be prone to political conflict. The promotion of agricultural production in poor areas, such as the water diversion project to the Thessaly Plain in Greece for boosting irrigation, is a striking example. According to critics, increasing agricultural output drives the project, mainly cotton production, which is a heavily subsidized water-thirsty crop that is being produced in a water stressed region (Pittock et al. 2009).

IBWTs occur not just because of water resource constraints but also because of institutional constraints (London and Miley 1990). Inadequately organized engineering bureaucracies can find examining alternatives daunting and lack the capacity to pursue alternative options, especially, if the organizational culture is not equipped to look into demand management practices, such as waste re-use and water saving which all require a different mind-set than simply providing supply services to people. In fact, thinking so might even lead to mismanagement practices being revealed, which may be politically sensitive. In this case, because all alternatives require intensive investigation, sometimes grander ideas, such as building engineering structures, can be much easier to come to agreement on and create alliances among the bureaucracy, government, and companies.

Sometimes this option is much more attractive since as it is about investing something that might bring more monetary opportunities which are easier to buy into compared to things like caring about what the minority population in a donor basin think about their lands and rights. ‘The greater good’ justification is easily put into place. Thus, although water transfer projects superficially assess alternatives there is slack governance following construction. Stakeholder participation is kept to a minimum for fear that it will interrupt the project as well as a belief that it will

not add anything of value. Short, medium and long-term implications for people in donor and receiver basins are overlooked because it makes perfect sense not to look at these because they will inflate the cost. In different political cultures, the costs and benefits of the water transfer projects will be weighted depending on the values of the bureaucratic culture. The process for assessing these costs and benefits will also differ in terms of transparency and public participation depending on the political culture of a country. Spain's Tagus-Segura water transfer, for instance, initially aimed to solve the water deficit and bring irrigation to rural areas. However the initial feasibility work overestimated the amount of water that the donor basin had and this married with wasteful use of water in receiving basins and unconsidered increase in water consumption patterns (Pittock et al. 2009).

The majority of the literature argues that water transfers are advocated for political purposes, and more importantly, politically they can be achieved. Despite this, water transfers are still controversial because they involve the alteration of complex relationships in freshwater ecosystems. Not only does this impact on natural systems, but also on human systems as they are poorly evaluated in most IBWTs. Political decisions regarding water transfers disregard complex and long-term socio-economic and ecological impacts as well as the distribution of benefits where feasibility studies become wild guesses. The fundamental driver behind the IBWTs is pressure due to scarcity and sometimes a story of drought where lack of water creates immense pressure for populations. But what is most interesting here and of relevance for the Turkish case is a scarcity narrative, whether real or perceived, which drives propagandisation of transfer proposals to the public. This occurs without appropriate discussions and there is no opportunity to opt out if the public later becomes unhappy. Socially constructed political culture and the context it creates for accepting these projects is a nice convenience for the technocratic-engineering paternalistic discourse of the state.

5.2 Water Transfers and IWRM

Global water withdrawal has increased a lot faster than population has (Ghassemi and White 2007). For a long time the water profession was faced with the question of how to meet the demands of an increasing population. This resulted in what is called today a traditional supply development of water resources, namely to build water utilities to meet rising demands. On the other hand, past water development and utilization projects, which were mainly about engineering and construction, demonstrated long-term negative impacts on the environment. IBWTs are part of this engineering-focused supply management rhetoric aimed at resolving societal challenges (Gupta and van der Zaag 2008). Their purpose is to connect two separate spatial areas that are not supposed to be hydraulically and naturally united. They have been widely used but at the same time debated since their detrimental impacts often exceeded their benefits (Ghassemi and White 2007). As other supply interventions to nature, such as large dams, water transfers are environmentally and socially

problematic. What is now discussed here is the fact that IBWTs are incompatible with IWRM values (Gupta and van der Zaag 2008).

As previously discussed, IWRM is about water following its own boundaries and minimum intervention to that flow (Jonch-Clausen 2004). IWRM treats the river basin as the main management unit for human activities. Anything and everything is planned within the basin and activities are based on the understandings of its complex systems. On these grounds, the integration of water management, in theory, does not include IBWTs. IBWTs and IWRM values are contrasting as the former lack the underpinning philosophy of the latter. But because IWRM is socially constructed and sometimes its interpretation gets lost in translation, it is possible to argue against its values.

For instance, Thatte (2007) argues that IBWTs are robust practices within integrated water development and management. On the other hand, an NGO such as WWF (2009) argues that IWRM means that IBWTs cannot possibly provide a river basin approach as they are aimed at solving water supply problems by linking basins, each of which have their own systems (WWF 2007). For this study however, the most important aspect of IWRM interpretation in relation to incorporating inter-basin transfers is what the EU understands from IWRM. The EU-WFD's understanding of IWRM is similar to Gupta and Zaag's (2008) compatibility review of IWRM in the context of IBWTs. Briefly, this review identifies five assessment criteria by which IBWTs can be evaluated against IWRM. So based on this review, a inter-basin water transfer proposal should show that it can:

- Point to an objectively verifiable real surplus and deficit in basins where water is used efficiently,
- Provide for good governance: participatory decision-making, accountability to the public including affected people,
- Balance existing rights with needs: no person, family, or community or state will be worse off because of the scheme,
- Be backed up with sound science: can adequately identify uncertainty and risk and gaps in knowledge and all possible alternatives are considered.

Should all the above criteria be met, then this transfer proposal might be considered in the IWRM context. However, Gupta and Zaag (2008) also concluded from five case studies (Chinese South–North project, Spanish Ebro Transfer, South African Lesotho Transfer, India's National River Linking Programme and South Africa's Orange River Project) that IBWTs do not "align easily with the values of equity, ecological integrity and economic efficiency that underpin IWRM". Zaag and Gupta discuss scale mismatches: IBWTs operate on an inter-basin scale whereas IWRM works on an intra-basin scale. Respectively, on a spatial scale, IBWTs mean biological and social discontinuity where new connections in natural and human habitats are established and new spatial scales are created. Secondly, IBWTs are built with long life spans but the policies that built them are constantly shifting and the societies that need them have ever-changing needs. However, as soon as IBWTs are put into practice they influence the way we look at our water resources and make decisions about the future. After a long discussion of these scale impacts of IBWTs,

Zaag and Gupta come to a conclusion which supports the main argument of this book: "The scale effects that result from inter-basin transfers seem to be at odds with the current trend towards adaptive management and learning organizations. Many inter-basin transfer schemes indeed suffer from 'lock-in' effects and as a result lack flexibility." I now assess the main reasons behind the incompatibility of IBWTs in relation to the underlying principles of IWRM below.

In IWRM, water resource yield has a natural limit; large quantities should not be extracted beyond this limit. In IBWT, natural limits can be overcome by engineering means and human intervention and alteration can be done if justifications exist. IBWTs come from a perspective where if population increases the response is to increase the supply sources and find new sources of water to meet the demand. This is the supply management perspective to water. IWRM on the other hand, gives importance to resource efficiency and the economic value of water. IWRM aims to decrease supply management solutions to water management due to their sustainability impacts in terms of further degradation to the environment as well as costs to society. Demand management requires an attitude where society becomes more conscious about water use with the help of demand policies, where water is more efficiently used because users and polluters pay and more water is saved and recycled.

Integration of water quality and quantity management is an essential component of IWRM because if there is not good environmental quality in the basin there will not be guaranteed quantity. IBWTs involve shifting large quantities of water. This makes it difficult to estimate the minimum flow needed to maintain the ecological health of the river system. In many cases, water transfers are done in order to dilute pollutants in receiving water bodies and to maintain a minimum flow level. Therefore, engineers view water quality issues as being addressable through IBWTs, however transfers can often exacerbate the problem through cumulative effects.

IWRM necessitates coordination of human activities and the demands on water and land use. For that reason, IWRM also gives importance to the integration of land and water resource management. For IBWTs, there is no such concern since they are a special form of engineering built for a particular purpose and constructed in a particular way. While they might be integrated in the way they are technically designed, they are only bound with population and how much water can be delivered in a certain time with a given cost per cubic meter of water. So they tend to be linear in terms of priorities that communities and stakeholders might have.

Real participation occurs when stakeholder opinion is incorporated into the decision-making process. It means that IWRM incorporates stakeholder participation and it can have a real impact on the final decision of a project. On the contrary, usage of stakeholder processes in the decision and construction of water transfer projects is desirably kept to a minimum by the decision-makers to defuse political opposition and delay any measures that adversely affect the interests of powerful groups in the process.

As is the case with the IWRM itself, good water governance means a lot of things to a lot of people. Hence some members of the water profession consider 'good water governance' a buzzword like IWRM. However, good water governance has

some common denominators that underlie IWRM principles. For instance, one of these denominators is the fact that good water governance requires a different kind of water institutionalism and a multidisciplinary bureaucracy that is quite generous in its participatory and decentralized mechanisms. This means that both top-down and bottom-up approaches in administrating water management functions are essential. Water management decisions need to be taken at the lowest appropriate level and this appropriateness is not predetermined because it will vary depending on the case. To be able to achieve that effective water governance should seek water management organizations that have independent budgets so that they can function outside the imposed influences of central planning or have a small focus that serves specific interests.

In opposition to IWRM, water transfers do not fit this background. Examination of various examples of IBWTs show that they come from centralized national planning traditions in developing countries where water resources are still a vehicle and a discourse for national economic development. Some developing country bureaucracies share similar political processes and centralized public administrations where democratic participation processes are weak and local government is immature due to perceived threats of regionalism against the nationalistic discourse. IBWTs are not a philosophy; they are the result of political decisions, which are endorsed by the water bureaucracies.

The core principles of IWRM involve adaptive management of water resources. IBWTs are not adaptive projects. On the contrary, because of their large scale and the longevity of their construction and associated institutional process, they lack flexibility. Once they are built, they can only function the way they have been initially planned. Water is a renewable resource but consumptive uses might have negative impacts on water quality and quantity. For instance, degradation in water quality impacts on available water quantity. Adaptive management requires a degree of flexibility to manage and balance the water demands of the environment and people. As the population grows, water demand projections become a moving target for the water planner because these demands change rapidly. This makes engineering structures irrelevant because their capacity is fixed from the onset at a particular point in time.

Encouraging efficient water use is fundamental in establishing demand management. This would lead to a new water culture being promoted amongst water users where water's economic value leads to a more efficient governance of water. In this type of system, there might be mechanisms to ensure that environmental externalities are minimized and removed by introducing pricing mechanisms, such as user pays and polluter pays. In fact, these are very much the core of the EU's understanding of IWRM as it is spelt out in the WFD. By providing for a full cost mechanism, externalities associated with, for instance, public health and the maintenance of ecosystems can be eliminated and public awareness can be raised by pointing out the importance of these mechanisms. Sometimes this is difficult and prone to conflict but it provides for the principle that water is an economic good and that it has aspects we cannot potentially free-ride (pollute, use) or underestimate the values and benefits it creates in our life (i.e. ecosystem services that river flow provides).

From IBWT's perspective, the traditional supply approach to water resources might account for the technical and economic use of water resources. However, this perspective is locked within a construction/master planning perspective and its priorities are fixed from the time of establishment.

IBWTs should be put into practice only after provision for eliminating water losses, using water efficiently, coordinating the use of surface and ground water and the promotion of waste water re-use. Finally, policies and legislative tools to ensure strategic monitoring are also needed. IWRM supports these principles. In fact they are embedded within the water demand management approach. However, IBWTs rarely support these principles. IBWTs and their assessments do not take IWRM principles into account in the majority of water transfers.

5.3 Melen Water Transfer, IWRM and Turkish Political Culture

This section explores the political culture of Turkish water bureaucracy in an IBWT case. The Greater Melen Project is analyzed in the IWRM context, and it is found that the political culture of Turkish water bureaucracy prevents any integration of water management. In fact, water management is nothing more than construction activities. This section proves why the Melen IBWT is not IWRM and discusses how it points to social constructions and national traits of the Turkish water bureaucracy. The Melen case is selected because in all its bureaucratic and implementation processes, far from applying IWRM principles, it represents the populist political discourses of water scarcity dominated by a paternal engineering mindset. The way Melen is managed and implemented demonstrates how Turkish political culture works and how its water policy is tied in with this political culture. Turkish water policy-making functions against the logic of IWRM. This section aims to show how water management in Turkey is un-integrated because of the political culture.

5.3.1 Water Transfers in Turkey

Inter-basin water transfers are not new in Turkey. In fact, for big cities such as Istanbul, IBWT is a long-standing solution for swelling populations. Turkey has 26 river basins, 7 geographical regions and wide-ranging precipitation levels across the Anatolian peninsula. Socio-economic, cultural and demographic structures are strikingly different in these regions and this mosaic is much the same as with the physical freshwater system. Water budgets, use and utilization patterns in each river basin demonstrate vast differences. To fix these differences in places where the natural system remains inadequate for the socio-economic system, water transfers have been considered and implemented (Karakaya and Karakaya 2007. See Table A.9 in the Appendix).

Currently, the only regulatory tool in Turkey that directly refers to IBWT projects is the 2003 Directive for Environmental Impact Assessment (EIA). This law ordains that an EIA is required if a project extracts more than 100 million cubic meters of water per year to transfer from one basin to another (to prevent water scarcity) and/or a project that involves 5 %, or more of flow diverted in a basin that has an annual average flow of more than 2 billion cubic meters. Some argue that EIA is not an instrument for the assessment of cumulative effects and the impacts of multiple projects on a single river; there have been significant cumulative impacts from small-scale hydropower projects that have avoided the attention of EIAs most of the time (Islar 2012; Scheumann et al. 2011). Other legislative instruments such as the Environment Law and Law on National Parks have indirect references regarding transfer projects which mainly concern their potential impacts on the environment (Karakaya and Karakaya 2007). Karakaya and Karakaya (2007) analyze transfer projects from a legal perspective. They find that Turkish legislation addresses some of the potential socio-economic and environmental impacts of transfer projects, especially around conflictive water rights. Donor basins have historical rights over the water they donate and transfers would not only breach this but also might catalyze conflicts regarding the distribution and sharing of benefits especially in cases where water diversion is aimed at job creation, increasing agricultural production and boosting one area's economic growth at the expense of the donor basin.

5.3.2 Greater Melen Project

There could be many justifications for IBWTs, some of which might be aimed at solving real scarcity issues; however this work is most interested in demonstrating where IBWTs are used to support a broader political narrative. This narrative is supported and executed by the techno-political engineering bureaucracy and fits well with their predilections. Scarcity is real but also supports a political discourse set against a paternalistic bureaucratic background. The Melen case represents these qualities as a massive construction project providing water for a big metropolitan city's thirsty and crowded population. It creates a greater discourse around transfers that cannot be avoided but only delayed because droughts make transfers absolutely essential, in other words, a permanent feature of water resource management (Israel and Lund 1995). Before delving deeply into the description of the Greater Melen project, a short explanation is needed to allow understanding of the historical aspect of water transfers for Istanbul.

Istanbul is a city that has long suffered from water being in the wrong place at the wrong time for its large population. Early thinking around increasing water supply sources to Istanbul focused on creating new water resources (Demirci and Butt 2001). In this manner, Romans linked the water-abundant, forested north of the city to the metropolis through aqueducts. The Ottomans seemed to be troubled with supply not matching demand. They implemented more water works to increase the supply capacity and built a series of reservoirs as early as the 1550s (Demirci and

Butt 2001). Public fountains under religiously pious foundations (Turkish: *Vakif*) provided domestic water to residents. The Ottoman Sultan, without any payment involved, gave water to his subjects. In this water culture, fountains became community points for urban development. In contrast, the non-Muslim population had water delivered to their homes by private companies by the late nineteenth century.

The Ottomans constructed a water supply system in four key areas: Halkali, Kirkcesme, Uskudar and Taksim (Demirci and Butt 2001). All these systems were connected with pipelines, some of which originated from Roman and Ottoman times and are still in use. Responding to an ever-increasing population appeared to set a precedent in Istanbul and the way water has been provided to this city. In current times, Istanbul's water has become a big issue and supplying water has become subject to the propositions of huge transfer projects. The Greater Melen Project is one such project.

The Melen Basin is in Duzce province located approximately 170 km east of Istanbul. Some of the basin extends into neighboring provinces: Bolu (7 %), Sakarya (12 %) and Zonguldak (0.3 %). It covers a total area of 2317 km^2. Twelve different water sources feed the Melen River. It originates from Lake Efteni and crosses over 6 districts and some 235 villages in Duzce and some 40 in Sakarya province. It flows into the Black Sea at Akcakoca. The Melen river basin has a predominantly rural population; according to the 2000 Census, Duzce's population is approximately 285,000 inhabitants. Communities living in the basin undertake commercial fishing, tourism, and agriculture. The basin is also an industrial area. It houses some 400 factories in the Duzce Organized Industrial Zone. Water pollution from industrial activities has long been an issue in the basin. During the SHW (State Hydraulic Works) interviews, senior engineers referred to severe industrial pollution caused by the waste discharge of a yeast factory over a long period of time (Senior SHW civil engineer and assistant head of the drinking water and supply, pers. comm.).[2] Monitoring industrial waste and the establishment of waste treatment plants is a recent phenomenon, which began with the implementation of relatively new environmental legislation in Turkey (Figs. 5.1 and 5.2).

The Greater Melen project is a series of engineering works that involve artificially regulating, diverting, pumping, channeling, barraging and transmitting large amounts of water. The project simply involves the waters of the Melen River being taken along a pipeline (185 km in length) that crosses the provinces of Duzce, Adapazari, and Izmit as well as the Marmara Sea through underwater pipes. Melen water is stored in reservoirs and dams along the way and is distributed as needed to the European side of Istanbul city (Fig. 5.3).

The Melen IBWT is not a new project. Engineering and consultancy works for the Greater Melen System were contracted in 1995 to a consortium which consisted of eight firms; one Japanese, two English, and five Turkish. The Greater Melen

[2] AuthoSenior SHW engineer also stated "the yeast factory has been undertaking some activities that blatantly pollutes Melen water. You need to go and ask farmers and fishermen what do they think of it and also ask the factory officials what they have been up to here."

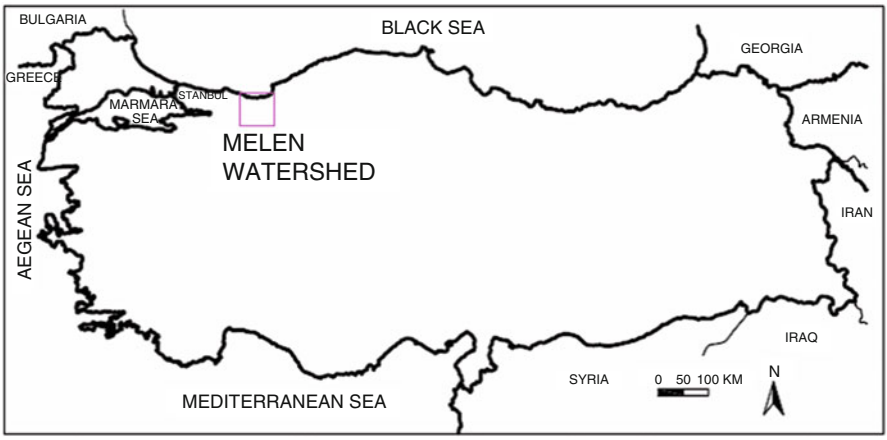

Fig. 5.1 Melen watershed (Erturk et al. 2007)

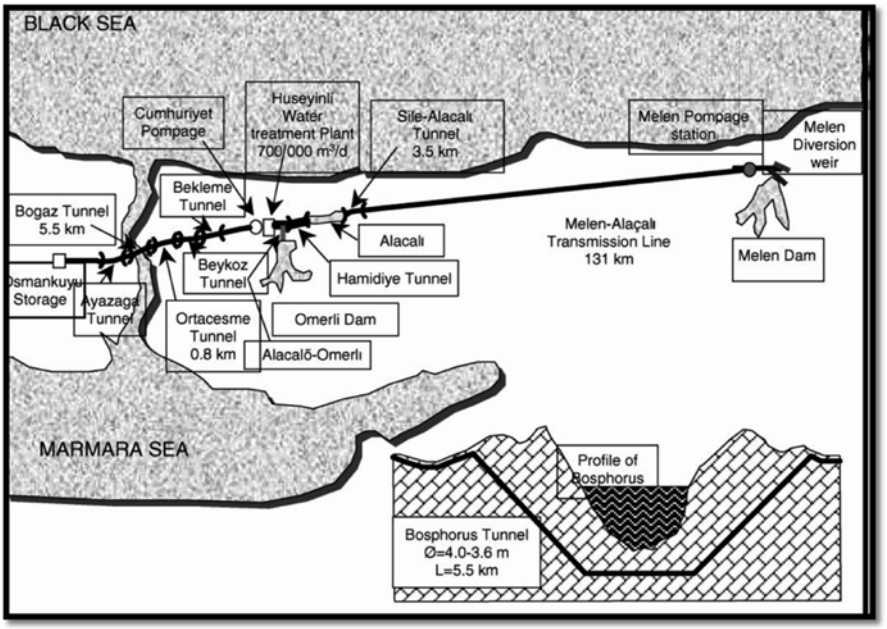

Fig. 5.2 Transfer of water from Melen to Istanbul (Altinbilek 2006)

Project was first envisaged by the SHW when the Japanese government offered a considerable amount of credit, so it is not entirely a project of demand; incentive to build first came because some credit was made available to the Turkish government. The credit, US$ 900 million in two parts, has been given only to construction work excluding resettlement and expropriation costs.

Fig. 5.3 Melen River flowing through Ortakoy near Duzce (Photo: Author's own)

There are 11 job packages and three major stages within the Greater Melen project (SHW 2007). The jobs were contracted in 2000 and the works commenced in 2001. The packages involve: the construction of dams and reservoirs, treatment plants, transmission lines, and pumping stations (7 packages), the production of large steel water pipes (3 packages) and the energy works that are required to operate the overall system (1 package). The first stage involves bringing 268 million m^3 of water per year to Istanbul and by the end of its third stage it would bring 1.180 billion m^3 of water per year to the city, a quantity which is aimed at solving water supply problems until 2040.

The first stage of the project takes water from the Melen River 7 km upstream of where it flows into the Black Sea and transfers it into a reservoir, then regulates and pumps the water to a pipeline where it travels 1.75 km to another pumping station where it is pumped up to 196 m above sea level in order to travel another 129.6 km through long steel water pipes where it ends up in a water gathering station. After that the water travels from the Asian to the European side of the city with another 25 km pipe. The diversion finishes with water being treated in treatment plants (Fig. 5.4).

The second stage involves the construction of the Melen Dam and storing Melen water. The third stage is complementary engineering work where additional pipelines and pumping stations are built to enlarge the supply capacity. This stage involves further enlargement of water capacity where it is increased up to 1180 million

Fig. 5.4 Large steel pipes for water transmission (Photo: ISKI. Retrieved from http://www.iski.gov.tr/web/statik.aspx?KID=1001143 on 25th February 2012)

m^3 per year. The first package was due in 2009. Due to drought conditions and insufficient water in Istanbul's main water supply dams, Prime Minister Erdogan authorized the acceleration of works and the project was completed in 2007. As of February 2012, the second stage of the project is in progress. According to ISKI (Turkish: *Istanbul Belediyesi Su ve Kanalizasyon Idaresi*-Istanbul municipality water and sewage administration) sources, engineering works in the second stage will be completed in the second half of 2015 (ISKI). A recent commentary from WWF Turkey regarding Melen states that the rest of the project, namely the third stage, is due for completion in 2027 (WWF-Turkey 2012).

Based on the agreed construction periods, each construction and engineering process is, in theory, 3 years. However, beginning with expropriation issues arising in 2001, there was little progress on these construction works and in fact the project suffered to a great extent from material supplies and technical issues in 2002 (SHW 2007). These 'technical issues' were frequently referred to during the author's series of interviews with SHW officials in Ankara. A senior SHW manager mentioned that SHW frequently goes to court with the contractors and the construction companies about the project packages and the jobs involved; this is mostly due to contractors not meeting construction deadlines and avoiding their payment obligations (Senior SHW manager responsible for drinking water supply, pers. comm.). The SHW manager stated that though their position is just, they sometimes cannot prove rightness because of the expert opinions and judges with whom their relations are fragile. That said SHW ends up being the harmed party. During the author's series of

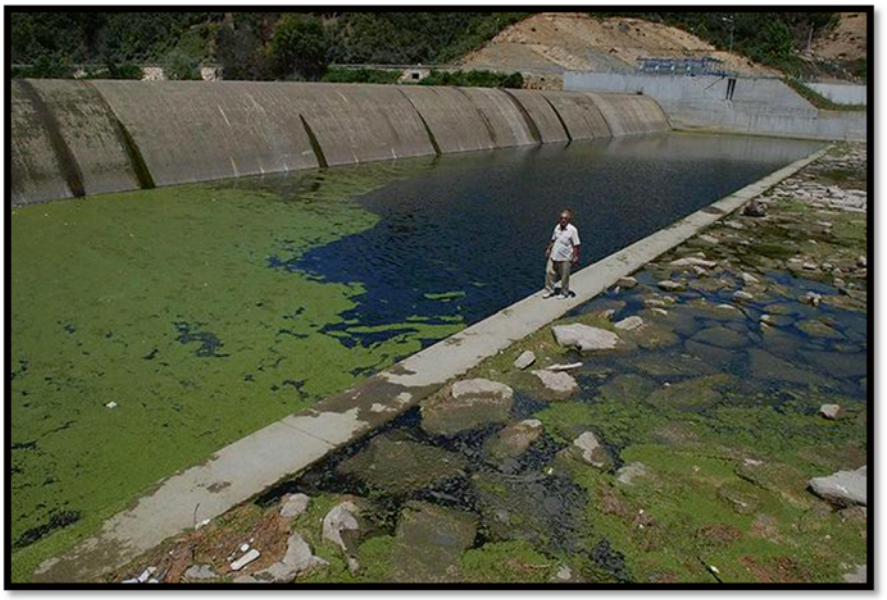

Fig. 5.5 Low water levels following drought in August 2008: no water to Istanbul (Radikal 2008)

interviews at the Ortakoy construction site, a Melen field engineer commented on this as a serious technical matter, which slows down project implementation (Fig. 5.5):

> There are 11 business packages in this project. All were given to different companies and contractors. Say, we work hard but the others do not. This is a problem because the one that does not work delays the other jobs being completed. This puts SHW and the company into a court process, which takes a long time to resolve, and then they (SHW) cancel the bid and start from the scratch. These are all chunky (engineering) works, which are difficult and long term. I am not entirely sure how long would it (referring to Melen system as a whole) take given these conditions (Civil engineer of the contractor company at Ortakoy Melen project construction site, pers. comm.).

In 2003 the project also suffered from financial constraints because projects with foreign credits were not included in the national budget. In 2004 and 2005, these issues remained especially since national financial resources have also been strained. At the field interviews in Duzce, a construction site engineer commented that project timing has a lot to do with the budget allowance issues (Civil engineer of the contractor company at Ortakoy Melen project construction site, pers. comm.). The total cost of the project is 1.181 billion US dollars (WWF-Turkey 2012). In 2008, just a year after completion of the first phase, the main upstream waters feeding the Melen River temporarily dried up naturally and demonstrated the risks of water diversion projects and their impacts in upstream rivers. This led to intensified criticisms of the project.

5.3.3 What Is Wrong with Melen?

The project, despite being billed in the mainstream media as "saving Istanbul from drought", received criticism from water specialists and many donor basin residents opposed it. There was opposition amongst the residents of villages scheduled for inundation and resettlement, they were unsettled with the livelihood changes foisted upon them. The first criticism focused on the need for building such project.

The CEO of ISKI gave a speech regarding Istanbul's water issues in 2004. He said that ISKI releases 1.8 million m^3 of water every day and has more than 600 million m^3 that it does not even use. This caused surprise and showed the disagreement and disconnection between the SHW and ISKI mandates. He later added that future water potential is sufficient for a population two times greater than today, therefore current resources are enough for 15 million people. He made it clear that Istanbul's population will not increase as projected in the Melen project's background studies and therefore it is an unnecessary endeavour. He suggested responsible authorities (referring to SHW) should review the project. ISKI's CEO was not the first person to criticize population projections underpinning the Melen Project as exaggerated and flawed. However, dissent coming from such an authority to questions about the legitimacy behind, and rationale for, constructing such a serious project concerning infrastructure was unusual in Turkey. It created worry amongst members of the water profession that these projects had been accepted on a rationale which these members thought was incorrect.

The Greater Melen Project was introduced and publicly communicated as a safe and cheap solution for meeting Istanbul's long-term water demand. Official statements from the SHW advisors and from government ministers were widely trusted because Istanbulites suffered severe droughts where they faced water cuts. However, at a later date when project completion lagged behind due to financial bottlenecks because it was sourced from foreign credits, declining water quality in the Melen River came as a surprise. After that, major planning mistakes and misrepresentation of costs and benefits of the project were also criticized. For instance, one of the positive highlights of the project as it was presented to the public was the good water quality of the Melen River. The justification for Melen water was that it would not need any treatment and that it would be feasible and cheap to bring water even if it was coming from such a distance. Later this criticism gained further validation as water quality degradation and issues around waste water treatment in the Melen basin grew and further to that the Melen's water quality was revealed not to be suitable for domestic consumption (Sumer et al. 2001). SHW argued that it had previously raised these issues, however relevant municipalities were not interested in dealing with water quality matters as from their point of view this required additional investment for treatment works and they lacked the financial resources. Interviews with civil engineers at the Melen construction site, this highlighted the issue:

> People say Melen's water quality is very close to drinking water standards. At the moment, that is not what we see, because there are industrial facilities upstream and they discharge

> their waste to the river. This is a problem. I am not entirely sure whether this can be prevented when the Melen system starts working, or these industrial facilities might be shut down or forced to make purification and might be audited but there is no such thing at the moment. Melen's water is not at all drinking water (Civil engineer of the contractor company at Ortakoy Melen project construction site, pers. comm.).

The Melen Project exacerbated long-standing water degradation issues. Instead of resolving existing water quality problems, decision-makers chose to augment water supplies without considering further negative impacts that might be caused by not solving the existing problem in the first place. It is ironic that while a small town (Ortakoy) by the Black Sea battles with such a problem, at the same time it is perceived as a potential water resource for saving Istanbul from its water troubles. When the author interviewed officials in SHW, they said the industrial facilities surrounding Melen have all been 'warned' to establish water treatment plants and some are in fact under a contracting process. The stock answer to an existing water quality situation was "we would not stop the Melen just because some factories have issues setting up water treatment plants and because we warned them already and there is nothing further to be done about this" (SHW Istanbul branch (SHW 14th Regional Directorate) manager, pers. comm.).

Izzet Ozturk, one of the Project's EIA (Environmental Impact Assessment) investigators and a Professor at Istanbul University, gave a media interview regarding the project. He stated that there was not any basin protection budget nor any preliminary investigation or planning done around the water quality issue. In his statement to a newspaper, he said:

> Unfortunately this situation is being realized a bit late. A master plan was prepared later to deal with the issue however there is an obvious delay in providing this information to the solution of the problem. Ideally this water should have been drunk straight from the tap but we know that there is dangerous stuff in it and we know it can make people sick. Therefore it is risky to distribute Melen water without any treatment (Ozturk 2010).

The above narrative concerning water quality shows that technical and bureaucratic authorities avoid obvious existing issues despite their importance to human health. Before completing such impact assessments, decisions to implement such large-scale water projects could pose a danger to public health. This proves that in IBWTs justification, not only does water scarcity play a role but it also enforces political interest by using water bureaucracy to omit essential public debate (Fig. 5.6).

Another criticism of Melen was the way in which its funding influenced the justification of the project. A former SHW engineer claimed in an interview that the Japanese government first proposed the project and then offered a grant worth US$1.2 billion to fund it (Under). The situation then changed, and they proposed instead financial credit for the same project worth US$800 million. The same former engineer stated that all engineers in SHW opposed the project as it was too expensive, however the SHW went ahead as the Japanese government offered the credit for Melen only; if the project was revised, credit was to be cut. When the Turkish Cabinet decided to cease the project in 2005 their Japanese counterparts responded that the credit would be withheld if Cabinet terminated the project. Cabinet wanted to take advantage of the credit and so decided to put the budget into the Parliamentary

Fig. 5.6 Turkish PM inspecting Bosphorus transmission line for Melen with a four-wheel drive (Source: SHW, http://www2.dsi.gov.tr/basinbul/detay.cfm?BultenID=181 on 25th February 2012)

decision. From an outsider's perspective, the relationships between the closed economic networks prior to the government's decision lacked transparency causing wider public debate about the funding of large-scale water projects.

An overriding problem is the project's potential cumulative economic costs and its under-studied societal and environmental impacts where no precautionary approach has been taken. In fact, some of the most important project costs were not calculated and included in the initial project financing and foreign borrowing (Civil engineer of the contractor company at Ortakoy Melen project construction site, pers. comm.). These costs include investments in pipes which need constant monitoring and maintenance from the time they are put in, and ongoing costs of pumping the water (energy costs), expropriation of private land (overall approximately 7000 people will be affected from the inundation of 16 villages. WWF-Turkey 2012), and some destruction of state forestry and land. Consequently, another obvious problem is the longevity of project implementation. The longer the project takes to execute, the more expensive it is to pay back the foreign credit and obviously this makes the transferred water generally more expensive. The author's interviews at the SHW headquarters in Ankara and at the Melen construction site in Duzce confirmed this view. A senior SHW engineer and department manager responsible for drinking water, who also works closely with the private sector and with contractors, stated that Melen was long the favorite project of the current AKP government because 'Istanbul's water issue is something that they would like to get on top of'

(Senior SHW manager responsible from drinking water supply, pers. comm.). However, he also commented on the consequences of this endeavour:

> This project might be seen as one of the favorite projects of the government, but it is very difficult to forecast the consequences of it. The government may change and the new one might understand the priorities about Melen differently. If you consider it that way, I would say the investment around Melen is gone to waste. There is no way we can know this. Take the water, purify it, build, operate and transfer as well as the costs of energy in all this: the revenue is the same because you charge a certain amount for the water used, it does not change. What you can do is to think about this as an investment in communities (Senior SHW manager responsible from drinking water supply, pers. comm.).

The views about benefits and costs were expressed during the author's construction site interviews in Duzce. The Melen contractor acknowledged that issues remained regarding the perceived benefits:

> Depending on the Turkish economy, I wish we can do projects that provide water for 100–200 years, it is not the problem. You need to have a good cost-benefit analysis. You need to look at the benefits but also look at the money in your pocket. We are constructing this project with Japanese credit and regrettably the repayments have started. There is a problem. For instance even if we finish the works that are contracted to us, until it officially starts operating, we need to maintain the engineering facilities and stay in the construction area. Even operation does not count as finishing the project, we need to test various amounts of technical things whether they work or not, such as pumping stations, pipes and reservoirs, hydraulic tests such as taking the water and observe whether it goes to the place that we wanted it to go. There is a little problem that the project is not working yet. It is a good project as long as it starts working. Politicians do not increase the budget allowance to get this going. I do not know, perhaps it is to do with the politics. I would not want to go there but you need to make sure the funds are flowing here so that the system could sustain itself. Or you don't do these kinds of projects. There is no point leaving it as it is. It costs the earth. It is your money and my money; I am standing here with the salary paid by tax-payers' money. These things are important but you see, it is daily politics (Civil engineer of the contractor company at Ortakoy Melen project construction site, pers. comm.).

The expropriation process and the issue of affected parties in the donor basin were also problematic. While mainstream newspapers and SHW officials regard Melen as indispensable for Istanbulites and for saving its future, residents of the Melen donor basin seem to be worried about the consequences for them as nobody knows what to expect from the officials. More importantly, there is a lack of interest amongst the officials and the general public in hearing from the small number of residents from the donor basin communities. Most of the expropriation measures were undertaken in the areas that are going to be affected by the Project, however communities in these areas have not been adequately informed and do not know where they are going to be relocated and what sort of economic activities they are going to be occupied with. The main feeling in these areas is one of frustration caused by not receiving the same prices for their land and uncertainty and lack of information about their future. Whilst they feel disadvantaged, the paternalistic political culture encourages them to believe that whatever the state institutions are doing is for the common good. At no point is the common good, or the local peoples' sacrifice for it, questioned. Therefore, most of them acknowledge that they will need to abandon their land and change their occupations.

In endeavours like the Melen scheme, all decision-making is operational once the engineering projects commence and relies on financial conditions such as whether or not adequate financial resources are available. There are clear institutional clashes regarding the rationale and legitimization of each project within the Melen scheme, especially when important decisions have been made and there is no turning back. Ad hoc technocratic decisions seem to be the order of the day. There is seemingly no coordination of separate water management issues within the same river basin. For instance, while Melen seems to have a serious water quality issue, integrated consideration of water quality and quantity management was clearly absent in the whole process. The justification for the project itself was based on various population projections which were inconsistent and demonstrated that there were other little-known reasons for rationalizing the project behind closed doors, such as the agreements between the Japanese and Turkish governments as well as the conditions of taking foreign credit for a large scale project. The miscommunication of the water scarcity issue to Istanbulites and not encouraging wider debate about water transfer projects, but presenting them as life-savers and a 'we look after you' type of paternalism, demonstrates how these projects are put into practice. To summarize, the Melen project is an example of how water bureaucracy and actors in water decision-making operate in Turkey under a particular political culture.

5.4 Conclusion

Political culture is a framework to understand what makes social actors empowered or disempowered, crucial or irrelevant (Lichterman and Cefai 2006). Political cultures are sets of symbols, meanings or styles of action that organize the making of political claims and the forming of the opinions, by individuals and collectivities (Lichterman and Cefai 2006). Culture defines the background for our thinking, field of action, identities and how to build our belief systems, in other words our discourses. Political culture not only represents how actors proceed with their interests but also indicates how they behave and follow their interests given the 'cultural' background that they have to work within. This is because political culture and national traits are publicly available symbolic forms through which people experience meaning (Lichterman and Cefai 2006). In the context of Turkish bureaucratic political culture, the Melen case represents many aspects of water management and the bureaucracy that deals with water management functions in Turkey. The most interesting aspects of this are: poor coordination of institutions (SHW, ISKI, Melen local authorities), the apparently weak outreach to affected communities, and the absence of serious impact assessment. All of these are presumably at odds with EU requirements, or at least the ideals of EU requirements.

On the other hand, Istanbul's population is increasing and rapid urbanization in the city, along with a high migration rate from other parts of Turkey, will create water issues in the city some of these may require engineering solutions of some sort in the future. However, this is not the problem per se. The most important issue

is the way that Turkish water bureaucracy perceives water issues and how it handles them. These perceptions are deeply embedded and have a long historical background in Turkish governance systems. The way that the water bureaucracy is historically institutionalized and interacts with the Turkish public has distinct characteristics making an integrated water resource management difficult to achieve. These traits are observed through Melen.

Firstly, the Turkish system of government has a paternalistic bureaucracy where the state plays the role of a father and where citizens are looked after, which results in expecting the state to deal with and handle issues of public importance, such as water supply. This marries well with closed economic networks and with promoting their interests as well as populist, vote-buying discourses by politicians.

Secondly, even though large-scale controversial water projects are economically unviable, because they are not widely questioned by the public, and fit well with the bureaucratic set-up which implements them, they continue to be the most common options for managing water.

Finally, Turkish society has a weak historical record in terms of political participation especially regarding environmental issues. This results in weak societal awareness, little civic activism, and poor debate about the justification of large-scale controversial water projects and the rationale behind their spending.[3]

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[3] A recent quantitative social science study called 'Environment in Turkey 2010' by Ali Carkoglu and Ersin Kalaycioglu proved this further and provided evidence regarding the environmental sentiments of Turkish society.

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Chapter 6
Comparing Political Cultures of Turkey and Spain

> *The one Spanish word that no foreigner can avoid learning is* ***mañana*** *– tomorrow (literally, 'the morning'). Whenever it is conceivably possible, the business of today is put off until* ***mañana.*** *This is so notorious that even Spaniards themselves make jokes about it. In Spain nothing, from a meal to a battle, ever happens at the appointed time. As a general rule things happen too late, but just occasionally - just so that you shan't even be able to depend on their happening late - they happen too early…In theory I rather admire the Spaniards for not sharing our Northern time-neurosis, but unfortunately I share it myself.*
>
> George Orwell (2007, pg. 13–14), Homage to Catalonia

This book argues that Turkey cannot implement IWRM and therefore would have huge problems in implementing the WFD, the EU's common water policy. The main reason for being unable to implement IWRM is Turkey's particular political culture, which is fundamentally different from the Northern European political culture in which IWRM developed.

While the previous chapter demonstrated the national traits of water bureaucracy specific to Turkey in an inter-basin water transfer example, this chapter strengthens this argument by comparing Turkey to Spain. Spain is part of the EU and has its own unique political culture that nevertheless bears some similarities to that of other southern European EU members and Turkey. Despite Spain trying to implement the WFD (and IWRM) to change Spanish water policy structurally, technical implementation of WFD has not been possible. On the contrary, water policy-making has been reactive, piece-meal and political as well as based on engineering large water structures. This is demonstrated as a case study through the examination of the Ebro water transfer proposal.

The argument is presented in four sections. The first section explains the reasons how and why Spain is similar to Turkey and strengthens the main argument regarding political cultures in water management. The second section describes the parallels between Spanish and Turkish political culture such as, a passive civil society, a

O. Oktem, *Water Politics and Political Culture*, DOI 10.1007/978-3-319-21479-5_6

paternalistic state and an immature democracy, which aspires to the democratic norms found in Northern Europe and gives an overview of the bureaucratic framework of water governance in Spain. By doing so, it demonstrates that Spanish water bureaucracy is significantly affected by social and historical factors that are ingrained in Spanish society and political culture (as similarly diagnosed in Turkey). The third section gives an account of the water transfer concept in Spain to demonstrate that it is a common response to water scarcity and describes the Ebro transfers by giving a brief summary and outlining the criticism it received. This criticism is analysed and used as it relates to the WFD to show how bureaucratic governance of water in Spain functions within a certain political culture. The last section explains the viewpoint that no matter what influence the EU WFD has on Spanish water policy, there are aspects that cannot be explained solely with regard to pure compliance to EU law and conformity with the EU values but rather must be understood with reference to the socially and historically embedded qualities of Spanish political culture. The chapter concludes that the Spanish case proves and therefore supports the main argument of this book: political culture is a major factor in the implementation of IWRM and therefore the EU's WFD in Turkey.

6.1 Comparing Turkey with Spain

Turkey and Spain have several characteristics in common which relate to the subject matter of this book. First, both countries have major concerns about water scarcity due to their geographical location and the variation of their precipitation patterns. A second similarity is that agriculture is the largest consumer of water resources and a major economic sector. In the same way, both countries' water bureaucracies have evolved from a positivist, techno-rationalist perspective dominated by engineers. These bureaucracies have produced similar solutions to similar problems in their water management, such as inter-basin water transfers.

Moreover, the political cultures of Turkey and Spain have striking similarities. Like Turkey's, Spain's water management is highly political where the benefits of large-scale water projects work best to the advantage of certain power groups and clientele relationships while leaving under-represented, weak, and apolitical communities outside the process. Similar to Turkey, Spain has deeply embedded social and historical patterns in its political setting where religious, military and nepotistic institutions' mindsets dominated state decision-making and stifled the democratic progress of Spanish society over the course of recent history. As with the heterogeneous and ethnically diverse Turkish society, Spanish society consists of diverse communities where groups seeking autonomy long battled with a strong centralist and paternalistic state that used water resources for national development and claimed these projects would bring solidarity among communities. Similar to Turkey, the technical view of water development in Spain led to a transformation and modernization process that had the objective of both altering and correcting

natural systems. Engineers made and executed decisions about water resource development and this made them a privileged elite technocratic class. They had the authority to change traditional power geometries in various regions of Spain with their project of altering Spanish geography. Despite the level of democracy they were operating within, Spain and Turkey have similar perceptions of river basin development and what integration of water resources might mean and whether such an integration concept can be implemented under the EU legislation.

In this regard, comparative analysis of Turkey and Spain has helped to progress and conclude the main argument of this book that both countries' political cultures of water bureaucracies are socially and historically defined. Spain is already a European Union member having to comply with binding supranational legislation and the EU WFD. Turkey, however, is not part of the EU and does not have the same responsibilities of compliance to the Directive and the IWRM, which is the theoretical framework for the Directive. Until full membership is gained, Turkey only needs to cooperate with the EU member countries with which it shares trans-boundary basins, such as Maritsa (Turkish: *Meric*) shared with Bulgaria and Greece. This involves working together on the implementation of international river basin management plans under the Directive. This might also prove problematic given the complexities described, however it is not the subject of this book. The two most important results of a comparison of Turkey with Spain are what can be learnt from their similar environmental, political, and cultural backgrounds and what can be learnt from Turkey's dealings with the EU as a prospective member.

Regarding the first point, just as with the historical and social development of Turkish bureaucracy, in Spain there is a technically dominated paternalistic water bureaucracy whose rhetoric helps politicians get away with the construction of economically unreasonable, highly political large-scale water schemes. This political culture is very difficult to eliminate despite the positive effects of the EU membership on water policy, civil society involvement in restraining controversial schemes and the increase in regional autonomy against strong centralist tendencies.

The Ebro IBWT proposal is used as an example to illustrate the jostling and collision between the political culture and the Spanish civil society that voiced dissent against unreasonable large-scale water development schemes. Ebro is chosen because it has a highly political rhetoric ('Southern Spain does not have any water') just as the Melen transfer scheme does ('Istanbul does not have water in the long term'), and its plan was prepared in a technical fashion where costs and alternatives were not adequately discussed and in fact were hastily prepared. In both cases, large-scale hydraulic structures have been presented as lifesavers in a highly politicized fashion without necessarily demonstrating the public their alternatives and costs. This provides a close resemblance to Turkey and an appropriate basis on which to observe these two technical bureaucracies' perceptions of the integration of water management and pure technical-rational approaches to critical large-scale engineering schemes. The socio-political components of these schemes are neglected in the interest of undertaking more politically attractive behaviour.

Despite their size, the Melen and Ebro water diversion cases demonstrated that an engineering dominated bureaucracy handles water scarcity issues with minimum transparency. The bureaucratic political processes that led to the production of projects such as Melen and Ebro are also strikingly similar in the justification of such large-scale constructions and a certain amnesia about the negative consequences of past water management decisions. For instance, both countries applied ad hoc engineering solutions to serious environmental degradation of water resources and at times not dealing with such problems had irreversible consequences. The over-exploitation of groundwater in agricultural water use led to wetland degradation and technical bureaucracies in these countries responded by diverting and transferring water to make up for the environmental flows and to replenish aquifers such as Tajo-Segura water transfer scheme in Spain.

The analysis of the Ebro transfer project in this chapter demonstrates the national cultural traits in the Spanish water bureaucracy as well as revealing the perceptions of IWRM and its practicality in Spain and how perceptions of the water bureaucracy translate into Spain's commitment to implementing the EU WFD. Both countries are late democracies. While Turkish authorities proceeded with construction of the Greater Melen project and wider public debate concerning impacts and costs was lacking, the Ebro project created a hostile atmosphere where the proposal was confronted by protests from the donor basin communities. What is really striking is the fact that whilst firmly established patterns of its political culture affect the outcomes of water decision-making, Spanish civil society has become stronger in debating and advocating water management issues over the last decade due to the EU dealings (Bukowski 2007). It is fair to say that Spain experienced a transformation in terms of its civil society after joining the EU. The EU directives and rules, especially concerning IWRM and decentralism, caused Spanish society to argue against the transfer proposals, however the bureaucracy's perception of hydraulic answers to water scarcity problems hardly changed. While there is a noticeable change in water management, the Spanish case shows that the transition is not complete and that old-fashioned approaches to dam building and water diversion have not yet disappeared (Font and Subirats 2010). The EU and its processes have been an aspiration for Spain over the past few decades, yet have not structurally altered Spain's political culture. It remains to be seen what effect the EU might have on Turkish political culture. In the Turkish Melen case for instance, public debate concerned only the questions of whether Melen's water was sufficient to supply to quench Istanbul's thirst and whether the newly built dam was collecting any water after all. The public and the press were rarely interested in questioning why a giant pipeline should cross the Bosphorus and bring water long distances and more importantly that all this was occurring at the expense of a little-known rural province on the western shores of the Black Sea. Turkish and Spanish political cultures share the similar characteristics of passive citizenship, a paternalistic state, a heavily technocratic bureaucracy and centralized planning of the national economy. Like Turkey, Spain's political culture has emerged from the context of a certain historical development process. The next section explains that process.

6.2 Spanish Political Culture

There are certain patterns in the way Spaniards feel about and perceive their involvement in politics, bureaucracy, and their relationship with the state in broader terms. These patterns and conceptions about political life are fundamental to how politics work in Spain. They are ingrained in how citizenship is understood and executed, how bureaucracy and organizations behave and finally how politicians and political leaders make decisions by gauging Spanish public opinion. The explanation of these features, in other words Spain's political culture, is the first step in understanding how Spanish water bureaucracy acts in managing the country's water resources.

Throughout its modern history, Spain has suffered from dictatorial regimes, military coups and civil wars. Spain was once an imperial power where the cultural traditions and the political life of imperial institutions influenced how authority perceived and delayed democracy. Spaniards' relationship with the state and politics is identified around these historical dynamics and events. These events shaped the political culture of Spain, which has some easily recognizable patterns.

Of these, one of the most important is 'political disaffection syndrome' that is deeply rooted in Spanish society (Montero et al. 1997). Spaniards' sense of politics is explained by three words: distrust, indifference, and boredom (Benedicto 2004). Anti-political tradition finds its roots in General Franco's[1] authoritarian regime and was a deliberate strategy to deactivate the masses from being involved in politics and to establish social control by demobilization. Citizens' mistrust of politics meant politics was perceived as dangerous but above all was not a concept that Spaniards associated with everyday life experience. This was because politicians were people who wanted to use the system to pursue their own interests and whose actions were largely symbolic rather than pragmatic, given the major societal problems i.e. corruption, socio-economic inequalities, and the bureaucratic inactivity of political parties that Spaniards suffered from because these were unresolved.

For that matter, Spaniards perceived participation in political life to be meaningless, because they conceived that they lacked the power to change or shape anything they disliked in the political system (Benedicto 2004). Consistent application of demobilization by the authoritarian regimes did not only create political disaffection but also a 'passive citizenship' (Benedicto 2004). Citizens' rights were not conceived as exercisable or legitimately practicable but rather a privilege to be granted or given by the protagonists of the state. While elite groups and leaders recognized representative institutions and citizenship rights, they had great difficulty with the concept of giving Spaniards the chance to execute those rights. So they were rights on paper only.

Spaniards' low level of involvement in politics and their feeling of impotence towards the government and related institutions seemed to conveniently consolidate

[1] General Franco was the leader of the nationalist forces that overthrew the Spanish democratic republic in the Spanish Civil War (1936–1939). After the Civil War he became the head of the government of Spain until 1973 and the head of State until 1975. Retrieved from Encyclopedia Britannica *Online*.

the powers of its leaders and elite. It encouraged Spain's authoritarian regimes to strengthen their positions in power. Needless to say, this allowed them to claim the one and only leadership role for socio-economic change that the Spanish society needed after losing its colonial and economic power in the late nineteenth century when it came to depend highly on domestic agriculture (Swyngedouw 1999). Since the one and only true protagonist was the State, which catered to the needs of its citizens, the State traditionally had a massive presence in the everyday lives of Spaniards (Benedicto 2004). For instance, concepts such as social welfare and policies, despite being an essential component of a democratic citizenship, were implemented from a paternalistic perspective in which expression of social rights were predetermined by the State without any citizen participation as to how provision of social welfare could best take place (Benedicto 2004).

This paternalism led to more non-participatory attitudes being consolidated to the advantage of the elite (Benedicto 2004). That is why social pacts operated from the top-down in Spain and were being used to reach particular groups' interests (Heywood 1998). The post-Franco state maintained its strong hold on power, and institutions almost operated outside the realm of social interests and prevented laymen accessing the policy-making process. This also allowed the government to develop privileged relationships with favoured groups, notably within the financial and banking world (Heywood 1998). The State's paternalism was practiced through networks of politicians and influential individuals and came as a logical response to the passive political consciousness of the ordinary Spanish people (Millan and Romeo 2004). This system of networks did not create the right environment for democratic growth; in fact it was inherited from the Spanish monarchy of the early twentieth century and comprised of a state-identified nationalism, the guiding hands of the Catholic Church, the army and the rural landlords (Millan and Romeo 2004). Because the state was best equipped to operate within this matrix, institutions and the elite adopted a discourse implying little interest in educating and informing citizens regarding what they did for them. Political participation was limited to formal channels and there was no further invitation encouraging Spaniards to perceive political participation as an essential democratic right. Again, this was a deliberate strategy on the part of the state to reinforce the paternalistic and commanding image that the elite and leaders had, additionally consolidating the perception that they were the only ones that could transform Spain into a modern country.

The project of modernizing Spain, from the Spanish citizen's point of view, meant the democratization of the country. The struggle with modernization was almost always perceived as struggling to internalize a democratic system. Especially towards the end of the Franco regime, democracy and liberal values were increasingly approved by Spanish society. Despite the fact that pluralism and freedom were seen as important in a democratic system, Spain had a weak and fragmented civil society due to the citizenry's apolitical feelings. Democracy was perceived as a vision of modernization, which was mostly represented by Northern European countries. Spain looked to Europe as a democratic example and therefore a path to modernization (Benedicto 2004). Especially when the dictatorial regime came to an end, Spain was precipitated into a massive socio-economic modernization and

secularization project in order to attain the level of its Northern European counterparts. However, Spain had a two-way relationship with Europe. While Spanish society partly perceived Europe and its values as a vision for modernity ('Spain is the problem, Europe is the solution'), other segments of society perceived Northern Europe as a threat to what is truly Spanish and its traditional values (Benedicto 2004). These were the two polarized perceptions of Europe being used as discourses by different political power groups in Spanish society.

In a comparative work on Southern European bureaucracies (the study includes the countries of Italy, Spain, Greece and Portugal), state-society relations are emphasized in the context of characterizing Southern European states and the way these states "served a plethora of interests including those of the capitalist classes" (Sotiropoulos 2004). Since states and their political elites work together in satisfying individual and common interests, they would be the last ones to request a drastic reform of bureaucratic structures. Based on this analysis, Southern European bureaucracies have top-down and bottom-up patronage and clientele relationships, which are reflected in party politicization of the higher civil service, recruitment to the public sector, uneven distribution of human resources within the public sector, and over-production of laws to keep certain interest groups satisfied and consolidate their status.

In short, the key aspects of Spanish political culture are exclusive possession of political power by elites and political parties, paternalistic institutionalization and conception of the state by its politicians leaving little room for citizen participation. Spain's modern political history is full of repressive movements that resulted in powerful groups and institutions such as the army and religious groups, restraining the development of a healthy democracy. Likewise, Turkey had historical experiences where citizenship was stifled by military intervention and the excessive role of Islamic fatalism in everyday life experiences in Turkish society that caused negative sentiments about politics. This type of democracy meant that the actual implementation of democratic institutions could jeopardize the absolute powers of politicians and threaten elites.

The bureaucratic structure in Spain is equipped with such a political culture and operates on these certain structural characteristics. Just as in Turkey, political disaffection and the state's lack of interest in educating the masses has led to a weak civil society and passive citizenship, where nationalist and centralist agendas by politicians have been easily practicable with little opposition. These characteristics in Spanish political culture had significant repercussions on how its water bureaucracy formulated policy and executed decisions that reflected these policies. In this case, a bureaucratic overview of Spanish water governance and policy is timely here.

6.3 Political Culture of Spanish Water Bureaucracy

The paternalistic and centralist political culture in Turkey had a major impact on Turkish water bureaucracy's actions and organizational culture, in other words, on how it operated. This culture can be defined as engineering dominated technical and

economic resource exploitation for national development as well as the execution of this exploitation in a heavily opaque and non-participatory fashion. Equally, Spanish water management comes from a profoundly technical organizational tradition where engineer bureaucrats were given the mission (and the permission) to economically uplift Spain and modernize the country.

Spain's geography and water resources are part of a national narrative of modernization and socio-economic development (del Moral and Sauri 1999; Swyngedouw 1999). Beginning in the early 1900s, Spanish elites considered the radical physical transformation of water resources as pivotal to solving major socio-economic and cultural problems in Spanish society, such as the class struggle, economic downfall and high levels of unemployment. The dominant view was that Spain's geographical problems (dry lands and infertility) needed to be corrected, otherwise Spain could never reach the economic development level that Northern European countries had, given that most of its economy depended on agriculture (Swyngedouw 1999).[2] This meant Spain's water resources should not flow into the sea and be wasted (Swyngedouw 1999). According to this perspective there should be a state-owned hydraulic politics that should catalyze preparation of a national programme, which would systematically alter nature and correct the geographical inequalities that Spanish society had to live with. For some Spanish intellectuals, this meant the alteration of nature according to a scientific-positivistic understanding. This became a scientific-technocratic engineering mission with engineers as master agents to intervene in nature. This would gain popularity from the rural masses and the traditional peasant culture, which were marginalized by the aristocratic land owning elite, their patronage, and clientele networks in State bureaucracy.

To transform Spanish society, which would facilitate greater integration with Northern Europe, elites turned their attention to facilitating an intense engineering of nature. They put forward a mission called the 'hydraulic paradigm' (Allan 2003; Lopez-Gunn 2009; del Moral and Sauri 1999),[3] a hydraulic quest that almost became a patriotic mission that would revive the Spanish land and advance it agriculturally through the construction of large-scale water works (Tabara and Ilhan 2008). The hydraulic paradigm meant achieving modern agricultural development, which ultimately led to the question of water, where there was not a water shortage per se but unreliability and unevenness that could be fixed by technical modification of regional water cycles (Sauri and del Moral 2001). Obviously, such a mission required heavy State involvement in the supply of water and this state-led initiative was later turned into state-led production of hydraulic works (Swyngedouw 1999).

The early bureaucratic setting for large scale intervention in Spain's water resources started with the establishment of the Corps of Engineers in 1799, a system that more or less remains today. Turkey, on the other hand, did not have such system

[2] Swyngedouw's work takes this argument and analyses it by reflecting on Spanish political culture and water policy.

[3] All literature in this chapter specific to Spanish water policy refers to the Spanish hydraulic paradigm, but for a specific account of the hydraulic paradigm see: Allan (2003). For a brief explanation of the development of hydraulic paradigm in Spain, see: Lopez-Gunn (2009).

at the time but a 'public works department' (Ottoman: *Nafia Nezareti* and Turkish: *Bayindirlik Bakanligi*) was established 45 years later than the Spanish Corps. The Spanish Corps was responsible for the development and implementation of public works. It consisted of "highly elitist, intellectualist, high cultured, male dominated, socially homogenous engineers", which had an exclusive and leading role in Spanish politics and national development (Swyngedouw 1999). Its decision-making structure was designed to execute the hydraulic paradigm. It was hierarchical, and all key positions and departments from managerial to hydrological divisions were staffed with male engineers (Swyngedouw 1999).

The first milestone in their societal transformation was that the Corps argued for a spatial engineering intervention and management based on integrated flow of a basin rather than the complex historical and social boundaries of Spain (currently some members of Spanish water bureaucracy incorrectly believe this is implementing IWRM. Swyngedouw 1999). The Corps introduced a river basin structure for Spain that led to a purely geographical regionalization of the country and forced a system that based the territorial management of water resources on the orographical structure of the entire country, which did not match the administrative boundaries. This was a deliberate move by modernizing elites to challenge existing power structures in traditional Spanish society and marginalized rural groups against the land owning aristocracy (Sauri and del Moral 2001). Therefore, engineer elites were deeply involved in a socio-political project instead of their proposed hydraulic works only intervening in nature. They also introduced natural resource dependency and new power dynamics among the Spanish regions and historically shaped the relationship between territorial authorities and the central government. The first ten hydrological divisions were formed in 1865, to undertake engineering activities that would catalyze the economic modernization process (Swyngedouw 1999).[4] Modernizers perceived hydraulic river basin divisions to be pivotal to the economic modernization process, as they would be collecting and keeping statistical data about the river basins. They would also gauge water cycles of regions in which real power holders such as provincial offices of the public works, special ad hoc commissions or private industry would then use these technical surveys. More than a decade later, the first Water Act (1879) was introduced and all surface water was accepted as a common good that would be managed by the State. For instance, this has eventually led to groundwater resources not being covered by the Water Act (Sanchez-Martinez et al. 2012).

Despite being restructured at various times up until the early 1920s, the ten hydrological divisions became quasi-autonomous water management organizations (Spanish: *Confederaciones Sindicales Hidrograficas*) in 1926 (Sanchez-Martinez et al. 2012; Swyngedouw 1999). Their mandate was extended to conduct detailed planning of hydraulic intervention proposals. This hydrological divisions system

[4] Swyngedouw highlights that: "Some of these divisions more or less coincided with major river basins (Ebro, Tajo, Duero); others (as in the South) had a much closer correspondence to provincial boundaries'.

included the supervising and execution agency, which was the traditional provincial agency. The central state was to control and decide the finances and control these hydraulic projects. One of the most interesting aspects of these ten hydrologic divisions were that they received a privileged position and had wider and closer relationships with banks, chambers of commerce, and provincial authorities (Swyngedouw 1999). They were regarded as the legitimate holders of scientific information and therefore became the elite of the modernization and transformation process. Engineers of the hydraulic divisions became the voluntary agents in the imposed reform of regeneration movement (Lopez-Gunn 2009),[5] which intended to increase economic activity by building large dams and supporting land use transformation (Tabara and Ilhan 2008). While hydraulic divisions lacked power up until the 1930s, which was about the time that the regeneration movement accelerated, the last reorganization of these hydraulic divisions was completed more than 30 years later (1961). The regenerationist modernization project, designed to alter Spanish geography to even out its water resources, was aimed at attacking the powers of the land owning oligarchic aristocracy who operated through clientele, and through nepotistic and personalized networks in nineteenth and twentieth century Spain (Swyngedouw 1999).

Similarly to the late development of environmental legislation and awareness in Turkey, water legislation and environmental policy also started late in Spain. The contemporary democratization process began in the late 1970s and late entry to the European community was also responsible for the delayed start in effective water management and policy (Kuks 2005). In fact the hydraulic divisions system, especially when Spain introduced decentralized autonomous territorial machinery after joining the EU, became increasingly complex because while territories had powers, central government still kept leverages to balance out territorial interests and the result was a half-baked decentralization (Colomer 2008; Moreno 2002).[6]

[5] Spanish regenerationism was a political school of thought that appeared in late nineteenth century Spain. The main aim of the movement was to find a scientific answer to Spain's downfall. After this movement, the word regenerationism, became famous in Spain and used to mean protest to political corruption.

[6] Moreno (2002, pg. 406) explains this phenomenon: "Decentralization and federalization in Spain has developed in an inductive manner, step by step. Both Jacobin centralists encroached on sections of the public administration and on some influential Spanish parliamentary parties together with representatives of the minority nationalisms (Basque and Catalan) have favored bilateral and ad hoc centre-periphery relationships. They have shown reluctance to encourage horizontal and multilateral processes of decision-making. This attitude is a major obstacle for the natural unfolding of the Estado de las Autonomias into a federal-like system of government. The decentralization process currently still needs to adapt new forms of intergovernmental relationships especially at the level of institutional collaboration. Autonomous authorities have to a large extent, transcended patterns of internal confrontation in Spain. The deep and widespread process of decentralization can be regarded as one of progressive federalization in line with the asymmetrical nature of Spain's composition." Another interesting account of decentralisation and federalism in Spain can also be found in: Colomer (1998).

The major policy landmarks for water management in contemporary Spain are the 1985 Water Law, the 1999 Water Law Reform and the laws of National Hydrological Plans (NHPs) in 2001 and 2004 (Garrido and Llamas 2009). The previous Water Act (1879) opened a new era for Spanish water policy for a number of reasons, and this highlights the political culture of the Spanish water bureaucracy. The Act considered waters to be in the public domain and so set principles for NHPs, most of which have failed. With the legacy of the hydraulic paradigm, the country's water policy focused on water scarcity and quantity, therefore there was a clear lack of integration between water quality and the quantity issues and management. The Water Law (1985) is the current primary water legislation in Spain. The endorsement of a Water Act and establishment of a new Environment Ministry (1996) were efforts aimed at creating an environmental bureaucracy, restricting the exploitation of natural resources, and setting up more efficient resource use mechanisms (efficient water use technology and systems). The system also has private property rights and historical long-term concessions (for instance groundwater rights) that impede environmental protection (Kuks 2005). Failure to introduce environmental protection into the NHPs in 1993 and 1994 as well as the opposition's plan 2001 show that the water regime in Spain lacks coherence (Kuks 2005). For instance, the 2001 and 2004 laws of NHPs were approved and so abolished a major IBWT, the Ebro project. The Water Law created a water management regime which favoured certain groups over others, such as irrigators over domestic users or Southern regions over Northern regions, and consolidated a system where water bureaucracy had exclusive financial and decision-making powers (Garrido and Llamas 2009).

As with their political culture, the culture of water bureaucracies in Turkey and Spain show the same patterns. First, both have technical water bureaucracies where engineering is the core of water administration activities. A second way in which these two countries are similar is the fact that there is a discourse around technical and economical planning of water resources and constructing large water schemes to serve the supply needs. These bureaucracies were regarded as key agents to realize the political agendas of the ruling party that used national economic development rhetoric. Despite the differences between the levels of autonomy of water institutions at the basin level, both countries have hydraulic river basin-based divisions that do not match provincial and administrative boundaries. This means production focus on water resources to provide for national economic development usually occurs at the expense of communities' needs and could cause potential conflict, such as in the case of large-scale IBWT schemes.

Water transfer projects in Spain are common interventions in the redefinition of water imbalances between regions. While transfer projects were ambitiously used in meeting the water demands of Spain's thirsty regions, they are not exactly executed within European water legislation. Furthermore, they are increasingly the subject of harsh debate in terms of their sustainability and fairness. The section below discusses more of the proposed Ebro water transfer project and its main characteristics that are heavily influenced by Spain's political culture.

6.4 Case Study: Ebro Inter-basin Water Transfer

Inter-basin water transfers are part of an established tradition in Spain and have been happening since the 1930s (Senior hydrological planning engineer at Ministry of Environment, Ebro Hydrographic Confederation, Director of Aragon Press Association, Head of international affairs at the Directorate General of Water, Ministry of Environment, General secretary of Department of Territorial Policy and Public Works at the Government of Catalonia, pers. comm.). Water transfers are common, though the water bureaucracy tends not to acknowledge smaller transfers, such as the ones that occur within the same basin, as being proper transfers (Senior Research at Fellow Agrifood Research and Technology Center for Aragon, Senior hydrological planning engineer at Ministry of Environment, Ebro Hydrographic Confederation, pers. comm.). However autonomous communities, academics and environmentalists increasingly challenge transfers due to their environmental and societal impacts. Their short-term nature and piecemeal approach to water management is criticized and the fact that they are being used by powerful groups to promote private interests without alternative options being looked into shed light on some typical components of the Spanish political culture (such as clientele and patronage relationships). This truly resembles the situation described regarding the Melen case in the previous chapter. Spanish water transfers provide a fitting comparison, especially in the way they demonstrate the actions of water bureaucracy.

A good example is the long-standing water transfer in the Tajo-Segura scheme, established in the 1970s. The Tajo-Segura scheme was designed to bring water to thirsty areas of Southern Spain. However, it is also an example of major planning and water mismanagement due to miscalculations of water availability in the donor basin while simultaneously expanding irrigation needs in the receiving basins without acknowledging such a planning mistake (Albiac and Murua 2009). A lack of detailed cost analysis in terms of water availability led to aquifer depletion and called for new transfer proposals (one including Ebro) in the Spanish governments' NHPs of 1993 and 2001. While the motivation behind transfer proposals is a common reflection of correcting the natural imbalance between water deficit and water rich areas of Spain, the environmental and socio-economical costs of sustaining existing water transfers as well as the potential costs of the proposed new ones are increasingly recognized and in fact perceived as a threat for existing water resources. This becomes a more fiercer debate among the Spanish water profession especially when prolonged droughts due to climate change and supply–demand projections for increasing populations in Spanish cities are considered (Cabezas 2012).[7]

Such debate is even greater on the proposed Ebro River Transfer. The Ebro project was the main hydraulic project of the NHP proposed by the centre-right conservative government, People's Party (Spanish: *Partido Popular, PP*) in 2001. Its Statement of Purpose claims to adopt the essential principles of the Water Framework Directive (Getches 2003). Yet, according to a majority of scholars, it is a "very

[7] This debate is addressed in Cabezas (2012, pg. 25).

Fig. 6.1 Water transfers from Ebro (Image Credit: Aleix Serrat 2004)

expensive white elephant and a magnificent monument to bad planning" because assessments of the NHP demonstrated that alternatives would be available at a much lower cost if demand management principles were adequately followed (Biswas and Tortajada 2003).[8] Ironically, the Plan implicitly says it does follow demand management principles, because it is dedicated to the implementation of the EU WFD, which requires demand management (Fig. 6.1).

The Plan involves transferring 1050 hm^3 per year of water from the Ebro River, which originates in Northern Spain to the Levantine basins of Southern Spain on the Iberian Peninsula (Jucar, Segura and Sur). The Ebro plan proposes two lines: while the Northern Transfer would take water for domestic use to urban Barcelona (189 hm^3), the Southern line would take water to the Jucar, Segura and Almeria basins, a total of 861 hm^3 per year of water, of which 586 hm^3 would be used for irrigated agriculture and the rest for domestic use (Arrojo 2003). If implemented, the water transfer from Ebro means conveying 1050 hm^3 per year of water for some 750 km to provide water for thirsty Southern Spain. The construction of the scheme was cancelled in 2005 with the change of government since the proposed transfer was the then government's (PP) flagship project. During the author's fieldwork in Spain, most interviewees stated that they were absolutely sure the Ebro transfer would have been executed if the PP government had not changed (senior hydrological planning engineer at Ministry of Environment, Ebro Hydrographic Confederation, pers. comm.). In fact, as of December 2011, there were rumors about re-launching

[8] Regarding the NHP being more expensive than the alternatives, see: Garrido (2003), p. 468.

Ebro as the Populist Party defeated the Spanish Social Workers' Party (PSOE) in the 2011 general elections (El Pais).[9]

With a new socialist government coming to power in 2004, a new water policy called *Actions for the management and the use of water* (Spanish: *Actuaciones para la Gestión y la Utilización del Agua, Programa AGUA*) was introduced. The program replaced the Ebro transfer proposal, however it maintained the main message of augmenting water supply but also introduced desalination schemes, especially in the most needy regions of the Mediterranean. The program proposed 21 desalination facilities in Alicante, Murcia, Almeria, Malaga, Barcelona and Girona (Garcia-Rubio and Guardiola 2012). While inter-basin transfer policy centered on the idea of hydro-dependency, Programa AGUA aimed at keeping the hydro-independency of these regions (Downward and Taylor 2007). This was because the Program referred to the EU WFD principles, especially in relation to water quality and cost-recovery where hydro-dependencies of inter-basin transfers further deteriorate water quality leading to the disruption of environmental minimum flows (Downward and Taylor 2007). Despite a new water policy on desalination, Programa AGUA did not entirely eliminate inter-basin transfer options. Interestingly in the Almeria case, for instance, small-scale water transfers (desalinated and reusable water) would be needed from areas of production to the areas of consumption and that the Program underestimated these costs (Downward and Taylor 2007). It has also been argued that desalination is just another similar response from the Spanish government in its endless pursuit of massive water investments (Dickie 2007). Many suggest that Spain should abandon this traditional approach and look into the "country's real water problems where unrealistic expectations meet poor water management" (Dickie 2007; Gomez-Limon and Picazo-Tadeo 2012).

So what is wrong with the Ebro scheme and why did it create such controversy in Spanish society? There is a large amount of academic literature and NGO documentation that assesses the cost-benefits of the Ebro proposal and details criticisms (Arrojo 2003; Beceiro 2003, WWF and Fundacion Nueva Cultura Del Agua 2003). Of these, Arrojo (2003) articulates three main points regarding the failure of the NHP and the Ebro water transfer proposal:

(a) *Environmental questions:* From an environmental perspective, the discourse around 'Ebro basin has a surplus' took a mistaken approach. There are technical errors in the way that proposal assessed the current flow. The proposal did not seem to leave a necessary amount for the minimum environmental flow in the Ebro's delta. Indeed, the poor quality of the transfer water is one of the weakest points of the NHP transfer projects. The Spanish government presented a Strategic Environmental Assessment document at the request of the European Commission, despite the fact that the NHP had already been passed into Spanish law. This report was found to be poor and unreliable, especially regarding the effects of new large dams to be built within the transfer proposals.

[9] Popular newspapers in Spain cover Ebro issues very often.

(b) *Economic questions:* There were errors in cost calculation; the costs per project and per transfer are different things yet they had not been calculated in thorough detail. There were also errors in the estimation of the expected benefits, and doubts about the calculation of the opportunity value for water in each basin. The overall cost-benefit balance was negative (Arrojo 2003).[10]
(c) *Socio-political questions:* The rush of the Spanish government to pass the NHP inhibited the democratic process and debate about the transfer proposals. In saying that, this was the case for all other NHPs that the Spanish government passed as fait accomplis. This authoritarian and paternal focus has finally ignited a deep social crisis because it created serious regional inequalities, which the NHP will deepen.

The Ebro transfer proposal provoked opposition from the Aragon and Cataluña regions from where Ebro water was originally to be diverted (Tortajada). The first point in the criticism is the regionalism argument where autonomous authorities and decentralization in Spain led to more powerful representation of regions and their communities. The Ebro, as part of the NHP, is part of a national, centralized water discourse to correct the natural water deficits among the regions. Regional governments increasingly voice their dissent against what is seen as an issue of fairness, uneven economic development and disadvantage. Central government presented Ebro as part of the 'hydro-solidarity' concept where water rich regions should help out water deficient regions for the common and national good.

The second point of opposition is whether there was a proper detailed assessment of alternatives to the Ebro proposal. To many in Spain, augmenting water supplies to deal with water scarcity is a traditional and worn out approach to deal with Spain's increasing water troubles. Especially in the face of over-exploited aquifers and the need for more minimum-environmental flows to fix water degradation, proposing more transfers proved a Pandora's box for securing existing water resources. Behind this criticism, there is concern about pricing. Since the main economic activity in most of the receiver basins is agriculture and agriculture is such a strong lobby with complex networks of clientele and patronage relationships and favors certain groups and farmers, charging more for transferred water will be essential but practically and politically impossible (Llamas and Perez-Picazo 2001).[11]

Another set of criticisms of the Ebro transfers pertained to socio-economic and environmental impacts. The NHP that included the Ebro proposal was passed without obtaining a proper EIA (Tortajada). For instance, one large scale and well-studied socio-economic and environmental impact is in Ebro's Delta, *Deltebre.* Based on some of these studies, the most devastating effects are increasing salinity in the Delta and decreasing biological productivity, which could result in serious

[10] Refer again to Arrojo's work for a detailed documentation of these items.

[11] Regarding this debate, see: Llamas Perez-Picazo (2001).

This paper argues the feasibility of Ebro if full cost recovery is used both from farmers' and state perspective where it is proved that farmers and users would not buy Ebro water because there would be cheaper alternatives.

degradation of the ecosystem in the area (Day et al. 2006). This degradation is considered to be irreversible in terms of its impact on the quality of land, marine, and biodiversity resources, but it would also negatively impact on tourism and agricultural activities (Ibànez and Prat 2003).

The criticisms Ebro received also apply in the main to the Melen water transfer scheme in Turkey. A grand engineering scheme was proposed despite the poor and hastily prepared project rationale. Similarly, the project was formulated by a group of technocrats in a way that fit with the political discourse and patronage networks' interests where some groups, such as Spanish irrigators who could lobby more effectively than any other water user and stakeholder, also happened to have strong powers over politicians. The economic development focus by water bureaucracy largely neglects the ecosystem impacts on environmental resources and strictly serves a paternalistic and centralist water administration philosophy. Just as in the Turkish case, the overall make-up of water bureaucracy and its culture becomes convenient for certain political agendas.

The most important component of this comparison is that Ebro attracted moderate opposition by donor basin communities which was not the case in Turkey. In the Turkish case, necessary debate about the costs and benefits of the transfers and the potential impacts did not take place and while the scarcity concept was understood by the public, this awareness was not the same for the impacts of potential solutions to water scarcity and the debate about alternative options for the supply of water. This has been the main difference, which IWRM and EU WFD created in the Spanish water management, which is explained below.

6.5 Why Is the Implementation of IWRM and WFD Unsuccessful in Spain?

Spanish water management carries the legacies of the hydraulic paradigm and is engineering focused. Further to that, power geometries among water users and allocators make water extremely political; when tough decisions have to be made political will is missing. In this sense, the Ebro transfer proposal does not fit in with the IWRM vision. The transfer proposal was based on a mathematically linear mindset where one can subtract from one basin and add to another and thereby solve the water scarcity equation. This mindset neither fulfilled the IBWTs viability criteria nor did it comply with IWRM principles. This means that in a perfect world where WFD is applied transfers would be the last option. The Ebro case represents how water is mismanaged and not managed in an integrated manner. The EU WFD has been a positive influence for Spanish water management, but it has not changed the fundamental traits of the bureaucracy and water policy. Involvement with the EU revealed the importance of transparent and answerable bureaucratic institutions, highlighting the need for non-transparent and paternal political cultures to change.

With the amount of opposition it attracted, the Ebro proposal led to new non-government and civil society groups being established as activist platforms to show dissent and advocate the abolition of the plan. This wave of activism is called the *new water culture* (Spanish: *Nuevo cultura del Agua*) and activists organized mass protests to prevent the Ebro proposal from proceeding. The new water culture which came after the EU involvement, and the WFD, is seen as a major transformation for water management in Spain. The movement made an application to the European Commission and argued that the Commission should use the core principles of WFD as a legal tool to argue against the Ebro transfer, an action that is pivotal to the argument of this book (Senior fellow responsible for Inland Waters at WWF Spain, pers. comm.). They further argued that the logic of WFD is derived from IWRM principles and IWRM requires problems to be solved at the river basin level. Any water stress requires looking at options within the basin and not beyond the basin. Measures could include application of demand management and financial tools to cut inefficient use of water, but not introducing bigger water structures. The new water culture movement further concluded that IBWTs should not be used to meet unreasonable and unrealistic demands based on a political, inequitable and unfair state of affairs. However, an interesting point is that the EC never accepted these arguments for using the Directive as a legal tool to abolish the Ebro proposal (Senior fellow responsible for Inland Waters at WWF Spain, pers. comm.). In essence, the Commission in theory might provide funding for these projects, yet this would not be able to influence the political culture of Spain, a culture that allows the Ebro transfer to be built. The Commission might also be aware that funding Ebro-like projects is not going to change the fundamental problems of the Spanish political culture, which will need to change in order to comply the EU WFD.

Several interviewees told the author that although the Directive is legally binding, the perceptions about its implementation varied. A local journalist expressed the view that the "water policy of EU is opposite to what Spain is doing" (Director of Aragon Press Association, pers. comm.), while a senior official from the Catalan Water Agency supported these sentiments by saying: "WFD does not change anything in Spain but has been an excuse and a reason for not changing the current behavior" (General secretary of Department of Territorial Policy and Public Works at the Government of Catalonia, pers. comm.). Cabezas (2012, pg. 20–25) articulates these points by highlighting how perceptions of IWRM might be important to execute the EU's WFD:

> Enforced in Spain since its transposition into Spanish Law in 2003, in our country the WFD has not always been regarded in its full scope as a new instrument useful for environmental improvement of water resources, but has frequently been the object of mystifications and misinterpretations which have distorted its true meaning. It also has been used as a convenient icon for accusations, because of ignorance or interests, on issues which are completely alien to the WFD.

Senior Ministry of Environment staff seem to be less pessimistic and sometimes overly optimistic. While a Ministry of Environment head of department in Madrid said: "I think the WFD is hard to apply for everyone and most of the WFD ideas and subjects were considered well before the WFD in Spain anyway" (Head of international

affairs at the Directorate General of Water, Ministry of Environment, pers. comm.), another senior Ministry official stated that "the implementation of WFD in Spain is good because it is a good reference for changing the system". In fact, some officials think that in having the technical river basin organizations, Spain has the comparative advantage in terms of implementation of the IWRM (Senior Ministry of Environment Director, pers. comm. Moren-Abat and Rodriguez-Roldan 2012). There was a clear division among the interviewees in the way that they perceived EU water policy, IWRM, and its implementation. According to a local journalist, politicians did not really care about the ecological impacts on water from transfer projects and even if some did and said no to transfers, they actually did not entirely know what they said "no" to. The Ministry officials on the other hand, mostly talked about the battle they put up during the negotiations and meetings with their European counterparts about the Directive's binding articles and deadlines. Because they thought Spain suffered from extreme weather phenomena, in other words severe droughts, which are not easy to solve, they emphasized the need for smart water management and good governance. That said, the officers' responses stressed that the WFD is drafted within a Northern European culture (Senior Ministry of Environment Director and Head of international affairs at the Directorate General of Water, Ministry of Environment, pers. comm.).

The Ebro is a good example in terms of its dubious cost-benefit analysis, its under-studied impacts analysis, its lack of significant consideration of alternatives; all counter to concepts which the WFD (and IWRM) advocates. It is therefore interesting to see the European Commission's reluctance and poor level of involvement. Getches (2003) argued that the Ebro case would show "whether the Directive has substance in practice and or is merely a paper tiger". Spain asked for funding to finance the Ebro transfers, however the Commission claimed the environmental foundation of the Ebro transfer was poorly established and therefore did not grant any funding (Senior hydrological planning engineer at Ministry of Environment, Ebro Hydrographic Confederation, pers. comm.). This case clearly shows the social constructions of the EU and the interpretations of various value-laden concepts. The hesitation on the EU part not to provide any funding to Ebro proposal demonstrates the conceptual differences between Spain and the EC in understanding water management. Non-governmental organizations in Spain think Water Framework Directive exemptions are used by Spanish government as a political maneuver to continue its activities in water management, because simply, from their point of view, the Ministry officials think that the WFD would not be a Directive they would approve if it does not allow Spanish governments to continue what they are currently doing (Senior fellow responsible for Inland Waters at WWF Spain, pers. comm.). This comes across, for instance, in the EC discussions of defining prolonged drought, which is naturally relevant to Spain. A Director in the Ministry of Environment stated this by saying:

> What we are trying to propose, first of all, is a distinction to be made between the drought and water scarcity and second, we are trying to convince the member states that extreme weather phenomenon requires transitional and temporal exemptions and perhaps requires EU funds to support because it is difficult to meet water quality targets (of the EU WFD)

without having enough water (Head of international affairs at the Directorate General of Water, Ministry of Environment, pers. comm.).

The Directive already grants exemptions to meeting specific targets in extraordinary situations. A senior WWF Adena (Spain) Freshwater Officer argued that drought has often been used as an argument when authorities allocate water inefficiently, do not adequately address demand and supply issues, and therefore use the drought as an excuse for mismanaging available water resources (Senior fellow responsible for Inland Waters at WWF Spain, pers. comm.). There is a group of scholars arguing that this might well be the case because Spanish water policy does not use financial and economical tools (such as cost recovery and polluter and user pays principles) as emphasized in the EU-WFD (Professor of Geotechnical Engineering (Polytechnic University of Catalonia), Senior Research at Fellow Agrifood Research and Technology Center for Aragon, Emeritus Professor of Hydrogeology (Complutense University), pers. comm.). They emphasize the fact that water is part of a much bigger conflict when compared with Northern European countries, because it is about economic dynamics in Spain. For instance, irrigation drawn from groundwater is much cheaper than irrigation fed by surface water and creates more employment than the latter. From a pure irrigation and agricultural production perspective, the Spanish state finds irrigators underpaying for irrigation water convenient because agricultural production can only be profitable to farmers and as a whole to the Spanish economy if water is cheap (Senior Research at Fellow Agrifood Research and Technology Center for Aragon, Emeritus Professor of Hydrogeology (Complutense University), pers. comm.). Since 80 % of it is subsidized, farmers only pay for the 20 % of water they use. Academic studies that looked into the connection between farm subsidies and irrigation water demand show interesting results; removing subsidies had a larger impact on farm establishment than it did when water prices are increased (Garrido et al. 2006).

From the perspective of the domestic and industrial sectors current pricing policies are expensive, inefficient and politically motivated; pricing policies brought in under the EU WFD would be even worse because these users would be made to pay much higher prices for the water they use. If the cost-recovery principle of the Directive were to be used properly urban and industrial users would have to pay a lot more in the future (Biswas and Tortajada 2003). Water pricing patterns in the different regions and economic sectors of Spain prove the complexity of the Spanish water policy. Embid-Irujo (2005) argues that responsibilities of the government and the Autonomous communities on water pricing management issues are not specifically defined. This has resulted in differing opinions and actions, which could be resolved by only considering cost recovery in the water supply related services, which are included in the community Directive (Embid-Irujo 2005).

Albiac and Murua (2009) analyzed the application of the WFD in the Spanish case and argued that the design and implementation of reasonable measures required by the Directive is a difficult task for Spain, as well as for similar Mediterranean countries, but also overall in the EU. Their study gives a detailed account of major techno-political challenges, current mismanagement practices and flawed policy examples. Some of these findings and analyses are striking. For instance, water

Fig. 6.2 Catalan water posters in Barcelona underground. The Poster says "tap water does not appear by magic" (Photo: Author's own)

pricing is regarded as absolutely essential in the recognition of water being an economic good (which is again borrowed from IWRM). However, in some inland agricultural areas in Spain where low profitability is common, water is usually very cheap (Albiac and Murua 2009). On the contrary, in Southern Spain where intense irrigation on high profit crops is usually the case, water is much more expensive. These areas seem to be the places where most groundwater mismanagement, aquifer depletion and degradation occur.

There is no doubt that Spain is under pressure in the face of growing economic activities such as urban expansion and tourism (Senior Ministry of Environment Director, pers. comm.). However, so far the policies have been questionable in resolving some of the most pressing water management issues in Spain, principally water supply for irrigation and domestic use. Despite the fact that Spain enacted the WFD in 2003, after the approval of NHP (2001) it continued to build large infrastructure and engineering projects including the Ebro. After NHP was modified in 2005 this policy was substituted with Programa Agua. While NHP advocated inter-basin water transfers, the latter advocated desalination. The former became controversial however the latter was not so far away from its predecessor in terms of its understanding and approach to solve the scarcity problem. In fact, both kept the same vision of how to increase the supply where the answer was technical intervention, either desalinating or carrying bulk amounts of water from the North of the country to the South. To a senior official at the Catalan Government in Barcelona, choosing one or the other is all about mindset (Fig. 6.2):

> You can belong to the EU or not, but there are some matters a country can decide 'European behaviors' for instance the criteria of full cost recovery…For me if you do not have the water, you have to prove your case for using it (General secretary of Department of Territorial Policy and Public Works at the Government of Catalonia, pers. comm.).

In addition to this, none of these policy packages addressed the huge dilemma between water quality issues (non-point source pollution from agriculture and lack of sufficient minimum-environmental flow) and water quantity issues (where more water is needed for expanding irrigable areas for more production) as well as the groundwater issues, such as trying to make up for groundwater depletion by pumping transferred water between the basins where natural flow is artificially interrupted in the donor basin. This ultimately fails to integrate the different but connected essential qualities of water management, which is explicitly stated in the WFD.[12]

The institutional set up of water governance in Spain is river basin based, as is required in the WFD. During the author's fieldwork interviews, most interviewees mentioned that Spain is one of the first countries to adopt such a water governance structure and most of them feel proud of it when now river basin based management is considered to be the best geographical unit for managing water in the context of IWRM (Margeli 2011. Senior Ministry of Environment Director, General secretary of Department of Territorial Policy and Public Works at the Government of Catalonia, Senior hydrological planning engineer at Ministry of Environment, Ebro Hydrographic Confederation, pers. comm.).[13] However, there is a small nuance in the way that river basin based organizations and hydraulic divisions are understood by the water bureaucracy in Spain and what it means in the WFD as it is borrowed

[12] The groundwater management issue in Spain is a very complex one and a great example of the failure of integration. Albiac and Murua (2009) explain how groundwater resources are under pressure not only from intensive agricultural practices but also 'massive overdraft' due to illegal wells, which they estimate could number above one million. Institutionally, they argue that basin authorities in Southern Spain do not control the number of wells or the abstraction levels for that matter because it makes no difference as the extraction of water is being used on highly profitable crops on which they cannot impose recovery costs. Cost recovery is one of the main principles of the WFD and while inland and water rich parts of the Spain seem to have this relatively under control, in the area of southern Spain where there is a real place for cost recovery principles and pricing as incentives for the prevention of environmental externalities and degradation, there is practically no such system in place and even if there was the water bureaucracy believes it would make absolutely no sense and bring no change in the current state of affairs. Another mismanagement example where Spanish water policy is absolutely contradictory to the WFD is the Upper Guadiana diversion scheme. The Plan of Upper Guadiana was prepared to control and minimize the overexploitation and abstraction of La-Mancha Aquifer and also aimed at restoring a wetland and natural park in the area. In this case, Spanish water bureaucracy proposed more investments to reduce the overdraft however; this was not successful in supporting the efforts of curbing illegal wells, which number around 22,000 as compared to 16,000 authorized wells in the same area. This sent wrong messages to farmers who opened illegal wells and also to those who have legal wells, which are overexploited. It is argued that 4 billion Euros worth of investment did not look into the monetary costs of losing a very important wetland but also did not consider how to give the right signals to farmers whose activities cause the problem.

[13] In fact for an example of such praise see: Margeli (2011).

from IWRM. Their perception of integration was rather to do with the sole technical development of water resources where scarcity can be resolved by mathematical divisions of the country's water resources. The question here is not the technical competency of these organizations as they heavily employ technical knowledge to water management but rather with what they perceive and how they handle the issues they face. So, for instance, although Spain was regarded a pioneer and relatively progressive compared to other European countries (in fact historically well ahead of Turkey) in introducing a techno-engineering water organization and structure at the river basin scale (Getches 2003), hydraulic basin divisions have a practical and ad hoc management approach without giving much consideration to the ecological dimensions of the river basins which are strongly emphasized in both IWRM and the WFD. The bureaucracy's mind-set still produces transfer schemes that have opposite philosophies to IWRM and they make good bedfellows with the political structure and the culture of this political environment. Although Spain appears to have basin-oriented water management approach, it still maintains the engineering mind-set that best complements its political culture.

6.6 Conclusion

Spain's political culture has deeply embedded social and historical patterns, which are impossible to ignore while analyzing how current water management operates. One of the most significant aspects of these patterns is that transformation and modernization in Spanish society was being linked as a geographical, nature-altering and correcting project and engineers were volunteers of taking and executing decisions about water resource development. This made engineers a privileged elite technocratic class and with their project of correcting Spanish geography they would have the authority to change traditional power geometries in various regions of Spain.

In this sense, a striking point of reference in cases of Turkey and Spain is the inability to show political will in addressing water mismanagement issues from a strategic perspective where political culture impacts in a negative way on how water policy is formulated. Far from it, for these two countries, looking into water resources in a short-term, piecemeal and populist vote buying manner is the norm and a heavily technocratic engineering bureaucracy marries well with a low-key civil society and the hydro political discourse of the governments in power.

The Melen and Ebro cases demonstrate that water bureaucracies and water policy apparatus in Spain and Turkey most often give non-integrated, inefficient, and democratically immature decisions in the way they approach complex issues of water management. More importantly, they have political and administrative systems and processes in place such as an elite engineering bureaucracy and state-centered national development, which fit well with the political culture and are rarely challenged. Even if they are, as in the Spanish case, politics and complex relationships prevent such debate resulting in cancellation of large-scale engineering

projects. The EU processes have been helpful and inspirational to Spanish water management however these processes have not fundamentally changed the political and cultural components of the Spanish water bureaucracy. Again, the effects of these processes on Turkish water bureaucracy remain to be seen in Turkey.

Practicing the EU WFD is generally not an easy task for most EU countries. Studies on the evolution of water regimes (water rights and policies) in Europe have demonstrated that integrated water regimes were developed only in the early 1990s in the Northern European countries, such as France and the Netherlands (Kuks 2005). One can fairly say that the EU WFD was produced with a Northern European perspective (and therefore a bias) and developed in response to Northern-based water management problems such as water pollution and flood prevention. The task is much more difficult for Spain and Turkey. Firstly, their geographical context means that they suffer from different water management problems such as water scarcity and inefficient infrastructure. Secondly, they have deeply embedded qualities of their political culture, as well as complex and fragmented management systems, which differentiates them from Northern Europe. The Spanish case proves and supports this argument that the political culture of the water bureaucracy and the public prevents IWRM and the EU WFD being truly implemented.

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Chapter 7
Conclusion

This book has examined the primary traits of Turkish water bureaucracy and articulated how this bureaucracy understood and perceived the concept of Integrated Water Resources Management (IWRM). More importantly it has assessed the understandings and perceptions reflected in the administration of water resources in Turkey. The core argument is that Turkish water bureaucracy has distinct and deeply embedded national characteristics, which come from the historical and social development of Turkish society, government, and politics; in other words, its political culture. This political culture is socially constructed in a way that inhibits water policy-making in Turkey and encourages a single-minded, engineering dominated, paternalistic, and non-participatory water management system. Moreover, if Turkey becomes an EU member, this culture complicates the question of compliance with the EU Water Framework Directive (WFD), which is based on the concept of IWRM. This book demonstrates that interpretation and implementation of IWRM mostly depends on the political culture of a country. If such a culture does not support a participatory, transparent and answerable political system, then IWRM becomes impossible to achieve. There are five propositions in this book and each chapter systematically has analysed them. They are reviewed below:

7.1 Water Management Is a Social Construction

This book is about joining the dots. It draws on knowledge from different academic areas in order to explain complex socio-cultural and political phenomena. The first key argument of the book is that water management is a social construction. This means the main body of knowledge that establishes the physical, institutional and human aspects of water management activity and the ideals behind water management is socially and culturally conditioned by engineering discipline and knowledge.

The engineering discipline has a closed knowledge system that does not interact with social science disciplines. Above all, it uses its produced knowledge in order to please a client or fulfil an agenda. This book reveals that when water management

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is historically and socially shaped by the heavily technical knowledge systems of engineering it becomes a particularly useful tool for various political interests. Therefore, engineering creates an elitist role in water management activity where this role becomes even more elevated when a country has a weak civil society and a paternalistic political culture.

7.2 IWRM Is a Social Construction

The concept of water management changed over time due to environmental concerns, and the realisation of the cumulative impact of mass, large-scale engineering schemes. Beginning in the early 1990s the water profession came to an understanding that water development harmed the environment and damaged ecosystems, in some cases irreversibly. Water management required a democratic, participatory system before any political decision-making took place. If water is accepted as a common public good, it should also be regarded as an economic good where users and polluters need to pay for their footprints on this resource, so that there are sufficient funds to protect it.

These principles gained so much credit and were recognized widely at international water meetings where the concept of integrating water resource activities at the river basin level was generated. At these conferences, the water profession also acknowledged that a river should be managed at the basin level and the physical integrity of a river can only be provided with robust participatory systems and pricing mechanisms where water is used in the most valuable way. These ideas were quickly picked up, especially by wealthy northern countries who had completed their water development activities (hydraulic mission) a long time ago. The concepts of integrated catchment planning and river basin management planning were accepted and were put into national legislation to provide for the integration of water governance functions. Likewise, the concept gained immense popularity in developing southern geographies where the integration concept was not perceived in quite the same way. In either case, IWRM became the popular child of the water industry.

However, despite the worthwhile philosophy of IWRM, the term quickly turned into just a buzzword because it simply meant different things to different people and has been interpreted by different water bureaucracies and political cultures in various ways. This book demonstrates that IWRM understanding and perceptions change according to the political culture of a country. This has been proved through the examination of the EU Water Framework Directive where the interpretation of the Directive created issues of compliance. Not only the perceptions of integration but the perceptions of water mismanagement differed greatly among the countries. For instance, while a northern bias in the writing of the Directive was always pushed through in the meetings and negotiations of the Directive's deadlines, at the same time it created significant tokenism in some Southern European countries where meanings of the Directive's content became negotiable.

7.3 Turkish Political Culture Affects Turkish Water Bureaucracy

This book analyses the main traits of Turkish political culture and articulates some of the most important deeply embedded social qualifications of political life in Turkey. The analysis systematically examines the interactions and cross-impacts of a centralist, heavily elitist-technocratic bureaucracy where it perceives modernisation as adopting western institutions but on the other hand perceives them as a threat to its national sovereignty.

Over time these sentiments of the Turkish state consolidated a paternal political culture where a passive citizenship had developed and impacted on many aspects of the criticism of the state phenomena. This book demonstrates that when such political culture comes together with a heavily technical water bureaucracy, it results in minimum participation of citizens in water management decisions where patron relationships and political agendas go unquestioned.

7.4 Turkish Water Bureaucracy Has a Dysfunctional System That Is Anti-IWRM

This book analyses a case study where a large-scale inter-basin water transfer, the Greater Melen Project, is used to articulate the impacts of political culture on water policy and decision-making. The Melen case proves that some of the patterns that are identified in Turkish water management are dysfunctional. These are the products of the Turkish political culture where a European-type system, something akin to the IWRM, proves impracticable.

The analysis of the Melen case finds that the process, which leads to the construction of such a large-scale water transfer scheme, is an exercise in water development instead of management: top-down, heavily political and technical. Despite the claims of water bureaucracy about river basin based planning, the Melen case shows that water problems have not been solved at the basin level but with inter-basin transactions. In addition, matters such as the long-term water demand of a big urban area rarely creates wide debate in Turkish society because of the fact that politicians can win votes from those citizens who stand to benefit from such large-scale projects. Their cumulative effects are never debated nor their potential impacts on the socio-economic state of the donor areas. This has led to low-key participation processes in Turkish water management especially regarding the benefits and costs of large-scale water projects.

7.5 Turkey Cannot Implement IWRM Because of Its Political Culture

This book systematically demonstrates that the behaviours of Turkish water bureaucracy with a paternal and elitist hydro-political culture have many negative implications on public administration, politics and civic activism and on natural resource use and its management. In such a system, the implementation of IWRM can only have limited influence and the EU Water Framework Directive can only be inspiring but impracticable. It is inspiring because it contains principles for good water governance, however it is impracticable because the implementation of these principles are usually hijacked by the political culture in southern European countries, including Turkey.

This is proven through a comparison of Turkey and Spain where similar political cultures have similar reactions in water management systems. This book studies the behaviour of the Spanish water bureaucracy as an EU country and demonstrates the reflection of its political culture on that bureaucracy. The comparison verified that Spain produces similar behavioural trends to Turkey in the perception of IWRM, its uptake and potential EU WFD implementation.

One significant point of separation is that engagement with the European Union brought more awareness and exposure of Spanish society to European conventions and rules as well as an increased level of participation in the case of large scale, potentially costly water projects. Although again, the EU processes were beneficial to Spain, these were not enough to change Spanish political culture. Chapter 6 found that Turkey was similar even if it was not an EU country, and WFD also was not so easy to implement due to the political culture and the sheer number of different understandings and interpretations of IWRM. It would be more difficult for change to occur in Turkish political culture as compared to Spain, because Turkey's initial points of difference are much greater than Spain's were with the EU.

This book makes the clear point that Turkey needs to understand how its political culture creates a backward water policy, but that Europe also needs to understand that this requires a mutual understanding where Northern and Southern views of the concept of integration are very diverse. The Northern and Southern understandings of IWRM differ greatly and thus render implementation of the EU Directive difficult, and this confines the Directive's good principles to paper only. In summary, a water management framework that does not take political cultures into account result in untrustworthy contracts being made to comply with these laws. On the other hand, at the national level if countries do not understand the main traits that make up their national character, politics, and civil society, they might also fool themselves in their processes of modernisation where everything is done to please the EU but not to improve the living standards of their citizens.

7.6 Key Findings

Below elaborates the key points that have emerged through analysing the above-mentioned propositions. These points both answer the research questions and are key to the central hypothesis of this book.

7.6.1 What Happens When an Introverted Engineering Discipline Meets with Paternalism?

This book analyses the concept that engineering discipline as a closed and positivistic knowledge system is produced with little interaction from other disciplines where the implications of engineering activities are mostly beyond the engineering discipline and removed from the natural sciences. This component of engineering has been studied before and a new type of engineer has been proposed in previous academic work.

What this book adds to this argument is that engineering and such like-minded introverted natural science disciplines, where they have been part of a productionist discourse, can harm the environment, bully other existing and alternative discourses and most of all if they co-exist with paternal political cultures, could become puppets that serve the authoritative political system with little consideration of the dissent created in society.

Not only should engineering be a more social discipline with regular interaction with people in regards to the effects of what engineers create, but also more research should look into saving engineering from being a captured discipline between politics and rationalist-technocratic economics where engineers are drawn into power relationships. This results in them only doing what they have been told within a paternalistic system where no checks and balances for their actions exist.

I recommend that more research is needed on the impacts of the engineering discipline on politics and political cultures as well as the way in which this discipline is used as an agent to satisfy political means and interests, which results in significant harm to the environment.

7.6.2 IWRM Is Impracticable, but Not Because It is Abstract

IWRM is not a buzzword despite its frequent use in that way and its use in different contexts that have completely different meanings. This book found that IWRM is not practicable, a fact that does not make IWRM a buzzword. Moreover, it is not that integration cannot be achieved. IWRM is about what is ideal, and consists of principles that make a strong water management system.

The main reason that IWRM may never be achievable is the political cultures of countries. Every country has various understandings of their water management because of the differences in their physical and human geographies. The values identified with these understandings and perceptions of water management are also various. One consistent phrase I heard in my field interviews was: "IWRM inspires us and we work towards it". So, in fact IWRM's very aim is to inspire and not to be called a buzzword. There is a significant amount of literature which praises and criticises IWRM in this regard as well as trying to identify what it is that IWRM might mean in practice. Although IWRM may never be applied purely, it can be beneficial in influencing the way countries shape water policy. This book draws from these works; however what it adds to them is that IWRM is inspirational and should not be considered as something that is applicable as a prescription to all the ills of water management.

Something of even greater importance is that the political culture of a country could use the aspirations of IWRM to progress its water resource management systems, for instance, a concept that could make a difference in changing the conventional and deeply embedded political cultures in water bureaucracies. This was evident in the EU case and legislation regarding a common water policy, the EU Water Framework Directive. Northern European countries accepted integrated systems long before the Southern countries because of the way their water management activities evolved and the way their democracy worked. They could make the necessary transformation in their systems because their political culture gave them sufficient grounds, and had a suitable framework for reform and improvement. On the other hand, Southern countries did not have the same background to their political cultures, where in fact their political cultures impeded water management. They had paternal, heavily centralist, technocratic bureaucratic systems and civil society remains weak and powerless in the main decision-making mechanisms. Water institutions sit within a wider bureaucratic environment. The changes in bureaucratic environment and other institutions within that environment will influence the political culture of water bureaucracies.

My research looked at Turkish water management and demonstrated the effects of Turkish political culture on Turkish water bureaucracy and its water policies. Future research should investigate other countries' water bureaucracies and in different legislative and institutional systems. Instead of tailoring these systems and adjusting them into something that is specifically 'Northern', one needs to see what other adaptive factors can be used in specifically paternalistic societies and what sort of political and cultural barriers they need to abolish first, in order to develop their water governance systems. Due to a deeply embedded political culture, potential research is more than looking at water planning systems and a compilation of previous technical water management activities, but the type of research that would reveal the deeply embedded structures of a society is needed. This requires water culture research and linking water culture to water organisations and a further linkage with government systems. Only then can we perhaps see whether a government can efficiently "integrate" its water functions.

7.6.3 *Turkish Water Mismanagement Is Caused by Its Political Culture*

Turkey is a developing country that has some serious water management problems. Some of these problems are the result of tragedy of common pool resources and a lack of public awareness of environmental issues as well as the factors of physical geography (for instance, varying precipitation patterns), all of which have been studied by scholars. One thing that has not been revealed is the greater framework behind most water resource management issues: the way water bureaucracy functions in Turkey and the way water decisions are being made.

This book reveals that the problem of a socially constructed political culture in Turkey affects the way that the water bureaucracy understands problems and sees these water problems only in terms of something that can be solved by human intervention in nature. This discourse marries well with the political governance system in Turkey where a paternal state can be used to realise of vote buying exercises by ruling governments that decide to construct concrete engineering wonders with little opposition or fair debate, a fair debate that might result in these projects not going forward.

This book articulates that the EU common water policy process where an opposite system is required might not be easy to establish in Turkey (given that one interprets IWRM within a northern European bias), because EU compliance, as previously emphasized, is about changing water management perceptions, which is essentially what IWRM says. On the contrary, Turkish political culture might obstruct any change of mindset and any move towards the principles of IWRM where IWRM might provide an inspiration, just as it did to some extent in Spain.

Future academic study should not only target technicalities and the details of deadlines for the EU Directive where the water system should work in the way Europeans want it to work. This is nearly impossible and obviously not about a change of mindset but is related to the art of negotiation. I suggest that governments, especially the ones that have paternalistic systems, should give up tokenism, and pretence that they have got the processes and rules right but in essence their system is far from meeting the ultimate aim of integration because their efforts at integration are to please someone else.

New research should focus on the components of the Turkish water governance system and analyse how political culture in different scales of government, bureaucracy and citizen participation works and what it means for environmental awareness in Turkey. In fact, perhaps not only environmentalism but also transparent, liable and accountable systems could defeat unrealistic engineering proposals. Further institutional culture studies might be needed to understand how political culture affects water management. The impacts of political culture should be studied so that we can understand the consequences at the decision-making level and if political culture is different what would happen.

7.6.4 *Similar Political Cultures Show Similar Symptoms of Water Mismanagement*

This book compares Turkey with Spain, finding that similar systems of political culture demonstrate the same behavioural organisational systems in perceiving and understanding the management of water. However, this is not new. Spain and Turkey have been compared a number of times in academic literature with the conclusion that their water troubles came from similar sources: difficult and diverse physical and human geographies and similar political histories.

One of the most important findings that this book provides is that the inspirational aspect of IWRM guidelines could visibly lead to some changes in mindset. As an EU member, Spain does not seem to be fully compliant with the Directive. However, it strives to be so and regards the European type of behaviour compulsory in some instances (i.e. water pricing) where in others (i.e. drought management) it tries to convince the EU otherwise. Some of these problems could be the result of managing water badly or else that Spain might truly not have any other tools to overcome these problems. The salient point here is that changes in mindset due to IWRM aspirations need to be translated into action, this is very difficult. The effects of political culture however, need to change and governments should be accountable for their actions as opposed to being intolerant when exposed to criticism. Now Spain, post-EU accession, demonstrates that perceptions about controversial large-scale water schemes have certainly changed in this way and there is more civil opposition than before Spain joined the EU. So while the political culture has not fundamentally changed to make Spain fully apply WFD, the Spanish case provides a learning point as to how water management of a similar political culture evolved, and in fact changed for the better.

I suggest future research should make more comparisons between the political cultures of similar and dissimilar countries and use these comparisons. These comparisons should be used in a way not to impose generic laws and legislation but to progress and eliminate the deeply embedded negative political cultures in the water-related bureaucratic process.

7.7 Final Note

As a final note to the conclusion, I would like to mention two things I believe that are important about methodological limitations of my findings. The first is the location of where this book has been conducted. The study station was Dunedin (New Zealand) and the case countries were Spain and Turkey. Due to the distance and limitations in funds I could only make one trip to these countries for interviews and I could not conduct any follow up meetings with the same interviewees. This may be a potential limitation to my findings. The second methodological restraint is connected to the first; because the interviews were conducted in 2006 and 2007,

they only capture a particular moment of the bureaucratic culture in time. They reflect of political cultures five years ago, so this may be a second limitation.

This book has been an incredible journey. It started with a group of people who I had never met believing in my research proposal and giving me the funds (Otago University International Doctorate Scholarship) to realise it. This journey certainly was more than just coming to another country and studying in a second language. It has changed my life and I am thankful to those who played a role one way or another.

Looking at Turkey from the outside was most valuable because I have broken my cultural barriers. I believe culture is something that is both magical and fascinating to explore. Most things we do in our everyday life are the result of cultural things that are around us and condition us from the very beginning of our personal development. Picking on these qualities and teasing them out was absolutely fascinating.

Appendix

Tables A.1–A.9

Table A.1 Selected historical studies defining river basin and its unity (chronological order)

Done by	River basin studies	Source
Leonardo Da Vinci (sixteenth century)	His Arno Catchment (Northern Italy) drawings showed linkages between river basin events	Newson (1992)
Pierre Perrault	Studied the relations of drainage area and run-off. Found specific amount is needed to sustain a stable river flow	Perrault (1674, 1996)
Giovanni Domenico Guglielmini (1697)	Introduced the basic concepts of hydraulic sciences and first fluvial morphology writer	Gregory (1976)
Phillippe Buache (1752)	Introduced the topographical unity of the basin: the river basin is a set of all the slopes on which fall the waters that converge to a same river or creek (Smith 1969). His findings on *bassins* appeared as foundational to the landscape and its physiographic continuation to the waters	Wescoat and White (2003)
John Playfair	Drainage and river basin is important due to the connections they provide to the drainage system	Playfair (1802)
Thomas John Taylor	Linkage between river discharge and drainage basin paved the way for acknowledging river basin as a fundamental unit	John Taylor (1851)
William Davis	Described physical unity of the basin: *one may fairly extend the "river" all over its basin, and up to its very divides* the river is like the veins of a leaf; broadly viewed, it is like the entire leaf	Davis (1899)
Arthur Strahler	Streams are interconnected systems having inputs and outputs	Strahler (1964)
Rosemary More	River basin is a logical areal unit for hydrological studies, consists of a cycle: precipitation (input), storages and transfers (process), basin runoff, evapotranspiration and groundwater flow	More (1964)

(continued)

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Table A.1 (continued)

Done by	River basin studies	Source
R.E. Horton	Studied basin formation and the basin's feedback to the overall input into morphometric system and the hydrological unity of the basin	Chorley (1969)
Stanley Schumm	Behavior of a river cannot be known unless we understand the system: a stable alluvial river channel in any particular location is an integration of the upstream controls the geology, climate, and land use	Schumm (1977)

Table A.2 Examples of European legislative experiences on river basin development

Country	Legislation	Geography
Germany	River basin organizations were established (pollution and limited water supply)	Ruhr and Nordrhein Westfalen
France	As part of a regional development plan, the Compagnie Nationale du Rhone (CNR) was formed in 1921 and became effective in 1932 (Beckinsale 1969)	Rhône
Britain	1. Land Drainage Act (1930) 2. Water Act (1945) 3. Rivers Act (1951) 4. Water Resource Act (1963)	1. Britain had 47 catchment areas 2. The districts converted into 34 river boards that undertook fisheries and pollution tasks 3. River basin institutions manage river basin activities 4. Regulated water abstraction, fees, and the competence of the river boards (Molle 2006)

Table A.3 Selected academic use of word "integrated" within water resource perspective

Academic jargon	Description	Meaning	Source:
Integrated river basin planning	*Social economic, institutional and physical, chemical and biological universes are so interlinked with each other that the advantages and restraints seem to be observed within the holistic approaches to river basin planning*		Schramm (1980)

(continued)

Table A.3 (continued)

Academic jargon	Description	Meaning	Source:
(Ecological guidelines for) River basin management (also called ecological model of river basin development in the source)	*Preservation or improvement of the spontaneous functions fulfilled by the river, conservation of the natural values of the river basin, conservation of the river basin's extensive exploitative functions, development of sustainable intensive exploitation functions, improvement of the overall health situation in the river basin, regional planning should be done working with not against the environment*	*This attaches appropriate significance to the ecological boundary conditions set by a river basin which must, in its system of objectives, be broad and integrated in character*	Marchand and Toornstra (1986)
Integrated catchment planning and management	*Integrated catchment management describes the adoption and implementation of the strategic plan*	*One or more 'stakeholders' should take responsibility for the management actions and agree a timescale for that action*	Edwards-Jones (1997)
Integrated watershed management (also called effective watershed management in the source)	*Water management process aims an achievement towards "social change" by detecting successful river basin planning guidelines paying attention to the social aspects of the water resources management*	*Planning activity should not be a solely "unidimensional scientific exercise*	Heathcote (1998)
Integrated water management (also used interchangeably with total water management)	*An exercise of stewardship of water resources for the greatest good of society and the environment*	*Means to blend actions and objectives favored by different players to achieve the best total result"*	Grigg (1998)

(continued)

Table A.3 (continued)

Academic jargon	Description	Meaning	Source:
Watershed management	*Watershed is a basic hydrologic unit, and hydrologic and ecological processes govern the quality of soil and water resources within the watershed. It is appropriate, therefore, that issues related to sustainable management of natural resources are addressed within the context of watershed management"*		Lal (2000)
Participatory multipurpose watershed project	*"Water and land use have reciprocal effects and two resources cannot be treated as separate development issues"*		Rhoades (2000)
Watershed based management	Watershed is the most prevalent form of ecological boundary making so watershed based management is systems-oriented and ecologically based resource management *Water is critical to all life forms, as well as to human forms of economic production such as agriculture and industry*	*…A watershed approach to the environment reflects an ongoing deeper shift in our understanding of natural systems and our place within them…*	Barham (2001)
Integrated water resource management		*The term IWRM implies the inclusion of a fully array of physical, biological, and socio-economic variables involved in managing a region for environmental values and human use*	Hooper (2003)

(continued)

Table A.3 (continued)

Academic jargon	Description	Meaning	Source:
Integrated catchment management	*The catchment can be seen as containing two mosaics: one of human water-related activities, the other of water dependent ecosystems, terrestrial as well as aquatic. These mosaics are linked internally by water flows*		Falkenmark (2004)
Integrated water resources management	*Many land-based activities have implications for water flows and quality. An examination of aquatic and terrestrial systems through an integrated approach provides one way to address the dynamics of the interrelated systems, ensuring that critical relationships are recognized and managed*		Mitchell (2005)
Integrated water resources management		*Integration is: Spatial (refers to the coordination within the geographic area), objective (refers to the coordination of the multiple objectives with the optimal success), institutional (refers to the coordination of the governmental and non-governmental bodies, their policies, and projects), and temporal (the coordination of the different kind of activities functionalised as operational or long term) integration*	Cardwell et al. (2006)

(continued)

Table A.3 (continued)

Academic jargon	Description	Meaning	Source:
Integrated river basin management	The river basin is set both being an ecosystem and a social management unit within the basin. Integrated river basin management is the coordination of basin-wide water and land use activities	Integrated knowledge was generated by combining different types of scientific knowledge with visions, information and solutions developed in cooperation with local, regional and national stakeholders	Jongman and Padovani (2006)
Integrated resource governance New social movements related to environmental issues in 1960s, which enabled a shift from "technocratic planning to various forms of participative planning" called integrated catchment management	*"The emergence of catchments and watersheds in the last three decades as the dominant method to delineate regions for resource governance has assumed that soils, vegetation, other biodiversity, land use and groundwater, along with community engagement and collective action, best occur within such regions"*	*"Watershed policy is not just about water and water use; it should encompass an entire landscape. Because watersheds cover the entire landscape-terrestrial and aquatic- a whole range of cultural, biological, geographical, and ecological factors affecting watershed ecosystem health and native species diversity should be taken into account in the policy-making process"*	Brunckhorst and Reeve (2006)

Table A.4 International conferences that highlighted IWRM

Conferences	Proceedings	Outcome
United Nations conference on water (1977) Mar Del Plata	Mar Del Plata Action Plan: Increased attention should be paid to the integrated planning of water management. Integrated policies and legislative and administrative guidelines are needed so as to ensure a good adaptation of resources to needs and reduce, if necessary, the risk of serious supply shortages and ecological damage, to ensure public acceptance of planned water schemes and to ensure their financing (Falkenmark 1977)	Advanced serious criteria for developing and improving water management approached and applying integrated planning of water management (jargon used). It established an internationally coordinated approach that recommends 'developing national plans and programs for water supply and sanitation and a systemic assessment of water resources –it is regarded as the political baseline for water resources management

(continued)

Table A.4 (continued)

Conferences	Proceedings	Outcome
International conference on water and environment (1992) Dublin	The Dublin Statement on Water and Sustainable Development: Four Principles (known as Dublin Principles) produced: *Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment, Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels, Women play a central part in the provision, management and safeguarding of water, Water has an economic value in all its competing uses and should be recognized as an economic good (Global Water Partnership 2000, pg. 13–14)*	According to the first principle, effective water and land management must be provided in a whole catchment scale or a groundwater area. It recognizes a holistic approach to management which means harmonizing the hydrological cycle and human intervention, with water being seen as a resource that has multiple uses and serves multiple interests (Global Water Partnership 2000). The second principle involves government as an enabler, and source of the legal, institutional and regulative framework of a demand-driven water resources management approach, with participation needed at all levels to sustain holistic planning (Dribidu et al. 1996). The third principle underlines women's special role in the management of water resources, while the fourth principle implies water should not be considered as a free commodity, but should be treated as a finite and precious resource (Dribidu et al. 1996)
Rio conference on environment and development (1992) Earth Summit Rio De Janeiro	Agenda 21: Water being an integral part of the ecosystem	Identifying a management approach which is *harmonizing the technology, socio-economic, environmental and human health* dimensions (Teclaff 1996)
World Summit on sustainable development (2002) in Johannesburg (Johannesburg Summit)	Sustainable development plan of implementation	Pushed for IWRM and water efficiency plans for all the world's major river basins by 2005 and provide specific goals for achieving national and regional strategies (Rahaman and Varis 2005). It therefore recognized that integrated water resources management will be a fundamental component of sustainable development processes

(continued)

Table A.4 (continued)

Conferences	Proceedings	Outcome
International conference on freshwater (2001) in Bonn	Bonn Keys (2001): The first key is to meet water security of the poor, second key is decentralizing the water actions, third key is to facilitate stakeholder dialogue, fourth key is to bring the IWRM forward in our management efforts, and the last key is to facilitate better governance towards water management	These *keys* accept the IWRM as a most capable tool for achieving water security goals, especially the poorer segments of society

Table A.5 Deadlines of the WFD

Deadlines	WFD requirements
2003	Identification of river basins, assignment to districts, identification of competent authorities
2004	Characterization of river basin districts, pressures and review of impacts, economic analysis
2006	Monitoring becomes operational and work plan for River Basin Management (RBM) planning and public participation
2007	Overview of main issues
2008	Draft RBM plans
2009	RBM plans and programme of measures
2010	Implementation of water pricing policies
2012	Programme of measures operational
2015	Environmental objectives reached

Table A.6 Chronological snapshot of the evolution of the technical water bureaucracy

Year	The evolution of technical bureaucracy
1819	Çumra Plain irrigation was initial water-related undertaking of Ottoman bureaucracy (Tektas 2004). First studies and attempts to irrigate Konya Plains (a drought area in central Anatolia however fertile for agricultural activity), attempts to transfer water to Plains from Beysehir Lake 217 km West
1907	Project was endorsed by Padisah and 53 000 hectares of land was targeted for irrigation
1913	Konya Plains project was completed and water transfer from Beysehir Lake was achieved. It is regarded as the first modern and front-running irrigation project in the world
1914	First appraisal of water resources and establishment of Nafia (Public Works) department (Yildiz 2007) Water issues became more important after the First World War due to severe droughts

(continued)

Table A.6 (continued)

Year	The evolution of technical bureaucracy
1925	Ataturk saw the formation of the Department of Water Works (Su İdaresi) as a key measure for the Turkish economy (Ozis 1994). His attempts to initiate the water works department was realised under Nafia Department. Twelve regional branches were introduced. These undertook activities such as reclamation of wetlands, irrigation, and prevention of floods in twelve provinces (Karataban 2006)
1926	The first drinking water law (Law of Waters) was enacted in 1926
1932	Nafia Department did its first attempt in the pre-assessment of water resources; however it was not successful because of the limited capacity and the other demands on water at the time (Karataban 2006)
1934	Central government expanded its mandate regarding drinking water to provinces and first drinking water dam, Çubuk I Barajı (Çubuk I Dam) was constructed
1940s	No large scale dam or irrigation facilities were built until the end of the Second World War (Ozden and Ustundag 2002)
1950s	Turkey deliberated re-identification of surface and groundwater at the basin level, land resource potential, regular collection, analysis and publication of precipitation, temperature data in the 1950s (Yildiz 2007). To do that, State Hydraulic Works, SHW (Devlet Su İşleri) was formed
1960s	60 % of Turkish villages did not have access to drinkable water resources (Bugra 2007)

Table A.7 Laws authorising SHW

Law name	Duties in law
Law No. 6200 Organization and Duties of the General Directorate of State Hydraulic Works	Regarded as the main water law. Entitles SHW to construct dams and flood control facilities, install irrigation facilities, reclaim swamp areas, produce hydroelectric power, develop navigational aspects of river use, conduct operation and maintenance of facilities, and carry out all related necessary surveys and studies regarding water construction projects (SHW 2005)
Law No.167 Groundwater Law	Groundwater resources belong to the state and the SHW is entitled to investigate, use, and allocate groundwater resources on behalf of the state (Republic of Turkey 2003)
Law No. 1053 Domestic and Industrial Water Supply to Ankara, Istanbul and the Cities with a Population over One Hundred Thousand	Makes SHW responsible for supplying domestic and industrial water for the cities with a population over 100,000. This Law empowers the SHW to build dams and transmission lines, water treatment plants and water storage facilities in places where the population exceeds 100,000 (SHW 2005). There are 55 provincial units having a population over a hundred thousand (Yildiz 2007). SHW was entitled to supply drinking and industrial water to 45 additional cities with the adoption of new Council of Ministers decisions as of 2005 (Yildiz 2007). Law No. 1053 also gives the Hydraulic Works the authority to monitor water quality and pollution (Senior groundwater expert, pers. comm.). That being said, the SHW is also generally responsible for monitoring water quality in 1150 gauging stations basin-wide all over Turkey (Senior groundwater expert, pers. comm.)

Table A.8 Duties of the GDRS (Yasar 1997)

1. To determine, construct and maintain on-farm roads and village transport systems; construction of small dams, small scale irrigation schemes and drainage facilities
2. To assure the use, protection and development of water and land resources comply with the national development plans and programs
3. To construct drinking water infrastructure to rural areas; also undertaking surveys and technical research in developing water use at the rural level. The expropriation of land in order to do the reclamation work
4. To do land consolidation in rural areas to make valuable and suitable agricultural areas out of small and fragmented lands
5. To support rural communities financially (credits) in terms of their problems with the land and water resources so they can increase their production
6. To survey land use patterns, soil type, fertility and land capability at the national scale to increase the agricultural production capacity at the rural level

Table A.9 Examples of Turkish IBWTs (Karakaya 2006)

Name of transfer	Amount of water	Location	Rationale	Organisations	Since
Istanbul 1. Istiranca (Istranca streams are located in Thrace close to Turkey's border with Bulgaria-they flow into the Black Sea 2. Yesilcay project	1. This is a three-staged project; first stage involved constructing 3 dams on Istranca streams finished in 1996 (supplies 442 million m^3 water), second stage involved 3 dams and a regulator supplying 191 million m^3 water and third stage involves 100–130 million m^3 water 2. 335 million m^3 water will be brought to the Istanbul drinking water supply	1. In this project the water is taken from the nearby province of Kiyikoy and with a transmission line, then gets recharged to Cavusoglu stream and is transmitted to Terkos lake via Cavusoglu stream. This diversion occurs in various steps, the first is 16.13 km long the second 17.75 km long and water goes to a main transmission line with pumping stations and pipes 2. This project brings Goksu and Canak streams in Agva to 60 km away Omerli on the Anatolian side of Istanbul then is treated and sent to the European side of Istanbul	1. Istanbul domestic water supply 2. Istanbul domestic water supply until 2040 projected	1. ISKI (Istanbul Water and Sewage Administration-organization under Istanbul Metropolitan Municipality) and State Hydraulic Works 2. SHW	1. 1995 2. 1997

(continued)

Table A.9 (continued)

Name of transfer	Amount of water	Location	Rationale	Organisations	Since
Isikli-Gerede system (Gerede is a province in Bolu city which is located in the northwest of Ankara)	226 million m^3	Water is brought from Gerede stream via Isikli regulator with a 31.6 km long and 4.5 m wide transmission tunnel, and it is diverted to the dam	Ankara domestic water supply until 2050 projected	SHW and ASKI (Ankara Water and Sewage Administration system	2007
Gembos Project	130 hm^3 water will be diverted to Beysehir Lake with a 15.75 km long transmission line	Derivation of Gembos Basin water to Beysehir Lake and this will be done by diverting water from Derebucak Dam with the Derebucak Transmission Line	Irrigation for 1520 hectares of land	SHW	1994, however supposed to finish in 2011 with the budget allowance that SPO presented to Parliament
Anamur-Dragon	75 million m^3	From Dragon stream in Anamur to Cyprus (Water is taken from Alakopru Dam then is transmitted via pipes under sea (80 km) 250 m deep to Girne Gecitkoy Dam)	Drinking water and irrigation	SHW	1995
Konya Plains	160–180 million m^3 diverted, 440 million m^3 water supplied with Konya Plains project	Waters of Upper Goksu Basin that flows into the Mediterranean is diverted with 3 dams and a 17 km long tunnel called Blue Tunnel and this is taken to Konya Plains	Drinking water and irrigation	SHW	1985
Manavgat	180 million m^3		Selling water to Israel and contributing to Middle East peace process	SHW	1992–1999

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"Schedule Questionnaire" for State Hydraulic Works

DEVLET SU İŞLERİ (DSİ) İÇİN MÜLAKAT PLANI
***Turkey's Water Culture* (I)**

Purpose of the "Schedule Questionnaire"

This questionnaire is prepared for my interviews at the State Hydraulic Works-SHW (Devlet Su İşleri-DSİ) to make a comprehensive research about their role in water culture of Turkey and its development. By the end of the interviews, I aim to achieve a detailed understanding of the way in which water policy is being made at the State Hydraulic Works. I would like to explore the organistion's current understanding of ***integrated water resources management approach***. My work will also explore the current management approaches pursued by DSİ. Essential information which I would like to access is:

- The role of the State Hydraulic Works in Turkish water culture and water policy,
- The main problem areas according to DSİ (and DSİ's approach to solving them),
- Institutional and statutory challenges,
- Technical challenges (natural limitations for specific hydrological activity),
- What is understood from supply and demand management or integrated management,
- The level of international research about water policies,
- Comparative studies (country studies and comparisons),
- Pilot projects (especially, international) and their outcomes,
- International relations and its reflections on Turkish water policy.

Questions

The questions were prepared according to the ***policy levels.*** Policy levels include policy setting, implementation, policy outcomes such as, control and evaluation, impact assessment (environmental and strategic), and policies regarding the EU.

Department of Investigation and Planning

There are 16 divisions: 1st, 2nd, 3rd and 4th Planning Offices, Energy, Environment, Remote Sensing & CBS, Hydrology, Land & Drainage, Stream Works, Agricultural Economy, Soil Erosion & Sediment Control, Tender & Practice, Meteorology, Cartography, Laboratory of Water and Land. These thematic divisions work together to collect data, evaluate data and analyse the data from an 'optimum economical benefit' perspective. There are two kinds of plans produced by the divisional units: preliminary assessments and master plans.

Questions for the Department of Investigation and Planning

1. How does the department plan water resources?
2. What is the essential economical benefit behind planning? Who gives planning decisions?

3. What is a *Master Plan*? What is the difference between a *Master Plan (MP)* and other available planning approaches? Do you have any other planning methodology?
4. How do you put the concept of *river basin* in your plans as a hydrological unit? What does river basin mean in your work?
5. What is your main challenge regarding river basins given that you have to work with other departments?
6. What is the most challenging task in your planning?
7. What is your personal impression (by adding your personal experience) regarding the most important challenge in water planning during inter-agency gatherings?
8. Do you think that you share similar duties with other divisions? For instance, if you deal with environmental impact assessment, what is the limit of your engagement and is there any other deparment that deals with environmental impact assessment in one way or another?
9. To what extent do you and does your department benefit from international linkages-networks and the material coming from these networks?
10. How does the discussion mechanism work between departments related to plans and projects?

Department of Design and Construction

Twelve offices: Irrigation & Drainage, Artistic Works, Reclamation & Small Lakes, Facilities, Machinery and Electricity, Technical Measurements, Tender, *Southeastern Anatolia Project*, Operations, Projects (with credits), Statistics, Research-Planning & Coordination. The primary duty of these departments is to implement policies on both regional or central level or being a practitioner through undertaking other duties related to the construction and design such as, solving construction problems, preparing final reports and publishing them, undertaking final projects, preparing statistical data for budgets.

Questions for the Department of Design and Construction

1. What do you think about the department's role in planning water policy? or
2. Do you think the department is a technical division that has no affiliation with policy?
3. What is the most important challenge in your implementation practices?
4. What kind of statutory material you would thing that it would make your work better?
5. Which legislation challenges the practice or does it at all?
6. What is your methodology in monitoring and evaluating?
7. Are there any other evaluation mechanisms which has to work with your department?
8. What do you think the department's having an evaluation component or should it be separated?

9. How effective are international and contemporary developments about water policies, especially regarding water management, on department's approach to water problems?
10. How do you designate your duty area when it overlaps with a similar task of other departments? For instance what is your distinguished task when it has been compared to the Investigation and Planning department?

Department of Dams and Hydroelectric Power Plants

Sixteen divisions include: Machinery-Projects, Construction Tenders, Research-Planning and Coordination, Dam Construction (I-II, two divisional offices), Measurement Facilities & Final Evaluation, Dam Construction Projects, Çoruh Projects Electricity Works, Rivers and Channel Construction Works, Electricity Projects, Southeastern Electro-mechanical Equipment, Project (with credits), Electricity and Machinery Practices, Dam Hydraulics & Land Transportation Engineering, Financial Issues. The Department basically deals with the issues that already have been tackled by the Investigation and Planning department as a planning issue. The Investigation and Planning department sends the plan, program or a project draft to this Department and they prepare final project drafts, contracts, exploration documents and call for tenders.

Questions for the Department of Dams and Hydroelectric Power Plants

1. What is the main issue about collecting data and information? What do you think about the most important deficiency about the measurement? If so, is it a deficiency to handle technology or is it a governance issue or is it financial?
2. What is the most difficult task in the case of working with foreign partners and companies in terms of tenders?
3. What is the level of your engagement with other divisions and regional directorates?
4. What is the most significant problem with these units in your engagement? Is it a statutorial or an internal issue among the authorities about whose mandate and how?
5. What does foreign credit procedure look like regarding dams and hydroelectric power plants?
6. What is the most important environmental challenge that you confront in terms of operation and maintenance? If you do, what is the coordination level among the authorities dealing with environmental impact assessments?

Department of Geo-technical Services and Groundwater

Seventeen offices include: Engineering Geology (4 divisions), Investigation & Evaluation, Planning & Projects, Water Drilling, Geo-physical Studies, Geo-physical Laboratory, Remote Sensing. The Department evaluates groundwater resources and researches geo-technical features of groundwater formations. With regard to groundwater, department undertakes preliminary works, planning, and reserve controlling.

Questions for the Department of Geo-technical Services and Groundwater

1. To what extent your work covers the surface and groundwater interaction?
2. If your thinking is highly concentrated on this interaction, what do you think about the level of thinking at other departments carrying out a similar approach?
3. What is the importance of river basin in your work? Do you think is there a better way to promote river basin as a geomorphological unit?
4. What is the most important issue about the groundwater in Turkey? What do you think about the solution?
5. What is the biggest challenge in terms of implementation of policies in your department? If there is one, what is the usual way to tackle it?
6. When you do area work, how does local knowledge assist to your work, projects and programs?

Department of Planning and Coordination

There are five divisional offices: Planning, Statistics, Financial Program, Coordination and Cost Accounts. The primary duty of the Department is to facilitate annual and long-term planning regarding development programs and studying necessary programs to achieve various investment options through identified principles in development plans. The other tasks are: to develop new programming methodologies, preparing annual budgets, facilitating necessary coordination with other departments, publishing and working on financial system.

Questions for the Department of Planning and Coordination

1. How effective is your facilitation role as a coordination department?
2. How often do you need to meet with other departments, especially in the case of a conflict that requires multiple participation at a discussion platform?
3. What are your expectations from development plans and what do you think about their implementation so far?

4. When you start on a development plan, what is your main motivation when assessing it? What do you usually think about its implementation in terms of water resources?
5. What is the main discussion among other departments when you meet for budgeting purposes and new water investments?
6. Who are your target people for the publishing you do? Do you have a mechanism for public training and awareness?
7. What do you think about DSİ's role regarding public interest and stakeholder engagement?
8. Have you planned a project that actively involved stakeholder participation?

Department of Water Supply and Sewage Disposal

There are nine divisional offices in the Department: Domestic Water Projects, Artistic Works, Treatment Plants, Environmental Problems (water pollution and control), and Drainage Projects. The Department prepares final plans, master plans of the metropolitan water supply and operationalizes the construction of these projects and opens call for tenders. Additionally, the Department has a responsibility over protecting water resources and focuses on measuring the state of water quality, monitoring and controlling water pollution levels, taking necessary measures in order to prevent water from deteriorating.

Questions for the Department of Water Supply and Sewage Disposal (WSSD)

1. Why is the name of the WSSD "supply" while you are undertaking "pollution" tasks?
2. What do you understand from river basin when the issue is domestic water?
3. Do you have an integrated approach for supplying water to urban areas? If you do, what are the tools and how do you do it?
4. Is it sustainable to conduct water transfers for drinking and domestic purposes?
5. What is the level of your coordination between various departments of MoEF?
6. How would you describe your relationship with it?
7. What is your main challenge with the MoEF when you try to coordinate similar tasks and responsibilities?
8. What is the main policy issue supplying metropolitan water needs?
9. How do you use data and information shared between other institutions?
10. What is the cooperation level between various other government authorities?

Department of Real Estate and Expropriation

There are five divisions: Expropriation, Investigation & Evaluation, Real Estate & Inventory, Project and Programming, Resettlement Issues (dam construction). The main duty of the Department is to plan all services related to expropriation such as, purchasing, allocation as well as putting plans into practice.

Questions for the Department of Real Estate and Expropriation

1. What is your main code of conduct regarding resettlements?
2. What kind of policies do you follow while you do resettlements?
3. What is the most important part of the human development?
4. The department has the duty to assess impacts of dam construction and water infrastructure development on human and environment. What is your methodology and what kind of plans do you follow in order to prevent from negative effects?
5. What other institutions do you coordinate with?
6. Are there any priorities and criteria to measure all these impact assessment work?

Department of Operation and Maintenance (O&M)

There are nine divisions in the Department: Operation, Maintenance, Statistics, Research-Planning and Coordination, Operational Hydrology, Communication, Vegetation Control, Recreational Services, and Aquaculture. The primary responsibility of the Department is to plan operation and maintenance strategies, achieve them and assess the outcomes. The Department also identifies general policy on operation and maintenance and facilitates the coordination between related institutions by making arrangements with irrigation groups and communities. Designating O&M management methodologies, reserching new methods for better O&M, planning recreational facilities (especially in dam areas), monitoring the state of irrigation facilities, researching new methods for the development of fisheries and aquaculture and sharing all knowledge coming from inventory works are among other duties.

Questions for the Department of Operation and Maintenance

1. What is the O&M policy of the Department?
2. In what context does this policy fit into overall water policies of Turkey?
3. What is the unique dimension of the department's policy related to O&M forming the water culture of Turkey? Is there any specific consideration peculiar to Turkey's geography?

4. What is your perspective regarding O&M planning?
5. What is the main thinking behind putting recreational issues under O&M duties?
6. Do you closely watch and keep up to date regarding current international practices related to irrigation? How do you benefit from them?
7. Do you have specific stakeholder policies and strategies? If you do so, what is the level of your involvement in terms of public interest and stakeholders?
8. What is the coordination level between the department and other divisions within the State Hydraulic Works?
9. What is the most challenging task and controversial issue when you involve in other departments' responsibility areas?