van Steenbergen, F.; Kumsa, A. and Al-Awlaki, N. 2015.
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Comparing Yemen and Ethiopia.
Water Alternatives 8(1): 774-799

Understanding Political Will in Groundwater Management: Comparing Yemen and Ethiopia

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ABSTRACT: This paper explores the role of politics in water management, in particular, comparing groundwater management in Yemen and Ethiopia. It tries to understand the precise meaning of the often-quoted term 'political will' in these different contexts and compares the autocratic and oligarchic system in Yemen with the dominant party 'developmental state' in Ethiopia. The links between these political systems and the institutional domain are described as well as the actual management of groundwater on the ground. Whereas the Ethiopian state is characterised by the use of hard power and soft ideational power, the system in Yemen relies at most on soft negotiating power. There is a strong link between the political system, the positioning of different parties and access to power, the role of central and local governments, the propensity to plan and vision, the effectiveness of government organisations, the extent of corruption, the influence of informal governance mechanisms, the scope for private initiative and the political interest in groundwater management and development in general. More important than political will per se is political capacity – the ability to implement and regulate.

KEYWORDS: Groundwater, conflict, cooperation, politics, governance, Yemen, Ethiopia

INTRODUCTION

This paper aims to contribute to a better understanding of the role of politics in water management, particularly groundwater. The background is that whilst there is much attention for institutional development and more recently water governance, the power factor, embedded in politics, is often left out of the equation (Mollinga, 2008; Zeitoun et al., 2012). This risks creating an undesirable dichotomy of sorts where, on the one hand, much emphasis is given to developing institutions and formulating policies and, on the other, there is not much attention for the often manipulative business of ruling, balancing interests and securing resources, all part of politics and even more basic, which is implementation.[1]

There are frequent calls for 'more political will.' There is the expectation that if there was support from political leadership, things would be better and water and groundwater would be managed.

[1] Defined as "to carry out, accomplish, fulfil, produce, complete" (Pressman and Wildavsky, 1973).

Statements such as 'water is politics' and 'there is no lack of water but there is the lack of political will to act' (GWP, 2000) can obscure the analysis of (and engagement with) the exact forces at play. They risk placing politics in a black box and prevent an understanding of the main actors and gatekeepers, their interest and the overall capacity of politics to engage with groundwater management. In fact, it also suggests that the only thing that matters is political will, not interest or capacity. It also makes the untested assumption that politics is almost omnipotent and that in the end most problems can be solved by the right kind of political engagement.

This paper aims at a better understanding of the role of politics in groundwater management. It does so by comparing two countries that though geographically nearby have opposite political systems: Yemen and Ethiopia. The system in Yemen is described as autocratic (Blumi, 2011) and oligarchic, with leadership personalised and engaged in a constant trade-off between elite interest groups, trying to keep all of these on board at the cost of broad-based development. In contrast, in Ethiopia since the change of regime in 1991, the philosophy of the developmental state has been embraced (Zenawi, 2012). The government of the state is closely integrated with the ruling political party and forms the driving force for national development – often at the cost of other possible players. Whereas in Yemen the main play is trading off different power centres, in Ethiopia the government and the ruling party have monopolised power, seeing this as the basis for development to take off. In Ethiopia the government also has the ultimate claim on the resource base, being the final owner of the land though, at the same time, land is said to be a shared people's and government resource. In Yemen, in contrast, local management and user development prevail. Land and water ownership in Yemen is private and anchored in community claims. Water rights are often associated with landownership, though the Water Law of 2000 (2002) has introduced the licensing of wells – making groundwater development on paper no longer a free-for-all.[2] Yemen and Ethiopia are also in different stages of groundwater development. Whereas in Yemen groundwater development has been intense in the last three decades (four decades; since 1970) and the area with groundwater irrigation is now 80% of all area irrigated, in Ethiopia the use of groundwater is still in its infancy.

It is hoped that the comparative analysis in this paper will help to better understand the role political players and formal institutions can respectively play in groundwater management and what and who to target when trying to ensure sustainable use and equitable access. The basis of the article is the investigation in 15 groundwater- dependent communities, detailed fieldwork in two areas, interviews with key persons in the administration and the political systems as well as direct engagement of field team members in groundwater policy development.[3]

The paper first gives a framework of generic questions in understanding politics and governance of groundwater. Then it discusses the two different political systems in Yemen and in Ethiopia – looking at how the political domain is organised, how this interrelates with the domain of institutions and how this affects actual use and management of groundwater. Both countries and the links with groundwater management are subsequently compared: the interest and positioning of different stakeholders, the use of different sort of power, the capacity to act within the political system and the implications for conflict and cooperation in groundwater management. The paper finally concludes with remarks on the approach that was used and the implication for actions.

[2] This point of delinking land and water ownership is also emphasised in the outcomes of the National Dialogue, the extended consensus building process organised in 2013-2014 after Yemen's leadership transition. On the ground, however, local judges continue to have another interpretation, whereby landowners have unrestricted right to water.

[3] The different authors were involved in different capacities; the first author was involved in the preparation of the Strategic Framework for Managed Groundwater Development in Ethiopia (MWE, 2009) and the Irrigation Sector Action Plan in Yemen; the second author has worked and advised decision makers on policy and strategy issues on groundwater management and development; the third author is former Minister of Agriculture in Yemen.

DESCRIPTIVE FRAMEWORK

The analysis in the article aims to move inside the political black box and look at the role and reach of the political operators, the power elites and constituencies and how this relates to groundwater use on the ground. It particularly wants to analyse what drives political will and the capacity to stimulate and regulate groundwater use, deal with conflicts and foster cooperation.

The analysis of politics often disappears in discussions on governance, though it should not (Mollinga, 2008). This is particularly so when definitions on governance are made normative, suggesting that all is well when a number of basic 'good' principles are in place. Here is an example – the definition on groundwater governance from the Groundwater Governance Project:[4] "Groundwater governance is the process by which groundwater is managed through the application of responsibility, participation, information availability, transparency, custom, and rule of law. It is the art of coordinating administrative actions and decision making between and among different jurisdictional levels (GEF et al., 2012)". In this definition, power, politics and even basic distributional processes have become invisible. Another criticism on this definition is that it suggests that groundwater management can only come about under situations of ideal governance, as defined in the terms above, but there are examples to the contrary (van Steenbergen, 2013).

This paper wants to emphasise the importance of understanding the political domain, as part of understanding governance. The definition of politics used is the directive control over the mechanisms of the state. Politics is what politicians do, based on their nearness and degree of control on public decision-making and access to resources. Politics that affects water management is not just that which deals directly with water. In many cases there is a much larger political enterprise that has a strong bearing on water use and management (Warner and Wegerich, 2010): securing development of different economic sectors, keeping national integrity or defending regional interest, or mainly rewarding some power elite groups.

Groundwater has a number of characteristics that set the politics and governance associated with it apart from other natural resources, such as surface water. First, groundwater is invisible, making it hard to control and hard to assess its availability but also hard to determine when the limits to its sustainable use have been reached. Another factor that sets groundwater apart from surface water is that its usage usually thrives on a large number of more or less independent operators using springs or investing in pumping. Autonomy is in fact central to groundwater development – it allows water users to have access to their resource year-around by simply switching on the pump. Also to develop a well in most instances is an independent decision that does not require agreement of others, unless a strong institution is in place. This makes the promotion and regulation of groundwater different from that of surface water. Blomquist (1992) while analysing groundwater in California suggested that the degree of central control is more difficult to achieve and that effective regulation of water use would have to involve either agreements among users (if not too many) or changed behaviour. In most cases, groundwater governance will be polycentric – drawing on the strengths of user voluntary compliance and enforcement of norm. Shah (2009) has aptly used the terms 'anarchy' for the groundwater-dependent irrigation systems[5] in South Asia with a large number of independent users – that are relatively out of reach of the usual regulatory instruments and institutional arrangements – such as laws, permits systems or on the softer side: stakeholder platforms – and argues that a different take on water governance is required – more on influencing behaviour rather than directing it.

[4] This definition was phrased after a review of 12 other definitions from acknowledged sources, a common denominator according to these authors being 'the fuzziness of the idea'. There seems to be a magnetic pull to fuzziness as it allow us to agree without agreement, the same is true for other broad multi-interpretational concepts.

[5] With the nature of the aquifer systems (scale, depth, transmissivity) influencing the type of interaction taking place.

Because of the individual access, one may also postulate that groundwater is less politically contested: unlike surface water where competition takes the zero-sum shape of distribution of resources, in groundwater the name of the game is literally that of a 'common pool' from where it is difficult to exclude anybody and monopolise access anyhow. Moreover, the intensive use of groundwater in most cases is not more than a few decades old and, as a result, management of the resource if it exists at all is recent and still evolving (Jarvis, 2014).

This paper uses a set of key questions to systematically describe the nature of the political domain and the links between the political and the institutional and technical domains of groundwater management. The definition of the 'directive control' set politics apart from institutions. Politics is the system of control (or lack of it) directing the use of state mechanisms; institutions are these mechanisms: the laws, government organisations, the financing and development mechanisms and the organisation of water users. Groundwater management is what happens on the ground: the effective regulation of access and usage, the measures in place to enhance supply through recharge and the management of groundwater demand.

The degree of directive control depends on power. Power is the participation in making decisions (Lasswell and Kaplan, 2014) or – more bluntly – the ability to change the behaviour of others. The use of sanctions sets power aside from merely exerting influence in decision-making. Such sanctions or forms of power are of various natures. In this respect, Zeitoun (2008) and Zeitoun et al. (2013) – following Nye (2006) – make a useful distinction between hard and soft power. Hard power relates to the material capacity of one party to gain the compliance of the other. Coercion can be by the enforcement of rules or laws or the use of financial means or other allocations of assets. Soft power comes in two shapes: bargaining power and ideational power. Bargaining power derives from the process of negotiation and one's position and versatility in this. Politicising, determining what comes on political agendas, is an important part of bargaining power. Finally, ideational power is the most evasive but sometimes most influential form of power, coming from changing perceptions and the ability to frame issues (see also Mertha, 2008).

The main questions to describe the political system in this paper are: the nature of the ruling system, the mechanism of control (i.e. type of power used) among the ruling elite and the population at large and the link with the formal political democratic arrangements. The next domain analysed is that of the set of institutions. Main questions in this paper that describe the link between the political domain and the domain of the main state mechanism or institutions are the management of the government institutions and regulations; the implementation of development programmes; the extent of corruption; and the link between political power and the community of water users. Finally, the link with the actual management and use of groundwater is addressed: the interest of political power in groundwater issues, the nature of the support programmes and the effect on access, demand and supply enhancement (in particular groundwater recharge). A detailed description of the politics around groundwater in Yemen and Ethiopia, respectively, is given subsequently – following these three sets of questions: the nature of the political system and the distribution of power within it; the link between the political system and the different institutions and the effect on groundwater management and usage. The main questions under each of these domains as addressed for both Yemen and Ethiopia are given in Table 1.

Table 1. Describing the political domain, its link to the institutional domain and actual management.

Characterising the political domain	Link between political domain and institutional domain	Links between political domain and actual groundwater use and management
Ruling system	Link to government institutions	Leadership interested in groundwater
Mechanism of control within ruling system	Link to water users	Orientation of government support
Mechanism of control with population at large	Implementation of development activities	Stimulating use of groundwater
Link to formal democratic system	Corruption	Controlling access to land and water
Centre-region relations?		Regulation
		Stimulating recharge

GROUNDWATER IN YEMEN

Understanding the political domain

The groundwater situation in Yemen is even in the words of the then US Secretary of State Hilary Clinton on the occasion of her visit to Yemen in January 2011 described as "extremely critical and potentially destabilising" (van Steenbergen et al., 2011). Groundwater irrigation has risen from nearly nothing to 400,000 hectares[6] (ha) in four decades (1970-2012). Whilst this has vitalised the rural economy, the price is that in all governorates (basins) groundwater use exceeds recharge. An estimate based on the situation in 2000 put the imbalance at 7-50% for different basins but other estimates suggest that groundwater overuse in many areas is at a factor 3 of replenishment. The consequences are declining water tables in all areas where groundwater is used for agriculture, the increased difficulty in providing new public water services to still fast- growing cities, increasing bore failure rate (40%) for rural water supply systems, and the abandonment of land in the most fragile (coastal) areas (Al-Qubatee et al., 2013) as well as some highland areas, such as Taiz. In some areas, an exit from agriculture appears to be the most feasible solution (Hellegers et al., 2011). In spite of these hard facts political attention for groundwater management has been minimal.

The autocratic (oligarchic) political system in Yemen has been described by, among others, Longley (2010), Blumi (2011) and Philips (2012). Though authoritarian and centered for several decades on a ruling family and its entourage, there has always been a deliberate effort of the political leadership to extend patronage to all elites in the country[7] – so as to ensure their adherence and compliance. This inclusive autocratic system is a reflection of a country that is fractured, decentralised and not united. It is fractured first by the divide between the North and South, each with a different history and resource base, and further by persistent tribal allegiances, especially in the North. The difficulty of government in this context of diverse centres of loyalty is captured in the expression: "the unluckiest man in the world

[6] According to MAI (2014), the area with groundwater irrigation in 1970 was 37,000 ha. It increased to 453,000 ha in 2007 but then dropped to 405,000 ha in 2012.

[7] This was a lesson taken by the long reigning President Ali Abdullah Salih, who saw his predecessor toppled at the instigation of the main tribal factions.

is he who rides a lion or who is king of Yemen" (Daaer, 2001). Formal institutions have only a short history in Yemen. Managing the different centres of authority has been described[8] as "dancing on the heads of snakes" (Clarke, 2010) – maintaining a delicate balance between different power centres. The neglect of the former President to continue to do so effectively was seen as one factor in his demise in 2011.[9]

Other analysts have gone a step further in this analysis and have suggested that political leadership in Yemen in the last decades has not just been in a management mode but has been deliberately thriving on chaos, taking care to maintain it (Blumi, 2011; Philips, 2012). The fragility of the country and the risk of instability has been used to lever financial support from neighbouring Arab States and from the United States, the latter increasingly linked to a perceived danger of religious motivated terrorism. Clearly there is the objective threat of internal dissolution of the state that requires real support but at the same time there is a mix of irresponsible leadership and exporting the responsibility for reform to outside parties. Yemen's fragility and the sheer existence of areas with no central government control, rather than a real conflict at the time,[10] was also sufficient reason for the Committee on Foreign Relation of US Senate (2010) to dedicate resources to security operations in Yemen and financially support its leadership.[11]

One may argue that holding the fractured system together with extensive patronage has reinforced and consolidated the dispersed centres of power.[12] Especially after oil revenues in the country increased from the mid-1990s, generous resources have been routed to the different elite groups – far in excess of national expenditure on food security, resources management, state building or development in general. The channelling of resources to power elites has in fact reinforced their political and economic position, allowing the development of deep tube wells by tribal leaders for instance – which set them up as prime beneficiaries of intense groundwater use. It also prevented the investment in a functional state (Ward, 2009). There has been little trickle-down effect of the largesse (Longley, 2011). This can also be seen in the extensive poverty in Yemen, the widespread food insecurity (35% of person having calorific shortage in 2009) and expenditure Gini coefficients at community level standing at 0.44 (Egel, 2011). The inclusive character of the elite patronage has prevented the emergence of a credible alternative system. In the words of Philips (2012: 136),

> The high level of inclusiveness... makes it very difficult for elite to negotiate changes to the status quo, if even that was their goal. The common denominator in this group – willingly or otherwise – is complicity in the rent-seeking behaviour of the state, and dissent is thus focused on the distribution of rents and favours rather than on issues of development.

Philips also postulates that there is a subtle game of playing hard to get – undermining loyalty, but not challenging the political system as such. The analysis in Egel (2013) confirms this.

[8] In the words of the former President Ali Abdullah Salih himself in interview with Al Hayat newspaper 28/3/2009.

[9] According to the analysis of Chatham House (2012) the new opportunities that arose after 9/11 encouraged Saleh that the increased external support was enough to strengthen key alliance while permitting him to abandon formerly essential alliances as the civic balance to state power in Yemen. Another theory is that with reduced oil revenue there were fewer resources to feed the system of patronage that had developed in the last 25 years.

[10] This is resonated in WikiLeaks cables from 2009-2011 where there is a constant complaint by the US Embassy that support for anti-terrorism is diverted to other internal conflicts in Sada'a and in South Yemen, suggesting that the Al Qaeda threat may not be so prominent.

[11] Another example is the pledge of USD 5 billion foreign aid made at the meeting of the Friends of Yemen, following the failed airplane bomb attack in 25 December 2009.

[12] It is for this reason that the long overdue National Dialogue process is welcomed by many, as it gives the opportunity to integrate interests rather than playing them off against one another.

The two main elite groups in Yemen are the tribal groups and the security groups (Robinson et al, 2006; Salisbury, 2011; Philips, 2011):

The tribal groups: According to several surveys less than 20% of people relate their identity to tribal affiliation (Philips, 2011) so the network of sheykhs may just as well be seen as a network of local strongmen and regional influentials. The perception, as emerged from a countrywide survey, is that local political matters are still very much the stronghold of the sheykhs (Egel, 2011). At the same time, their moral leadership and ability to influence local processes appears in at least a number of places to be undermined. THIGJ (2014) reports several examples where local leaders were substituted by go-betweens who did not command the same respect.

The security services: These are largely dominated by members of the ex-President's family and his clan, whereas the current President has his background in these services as well. Another key figure is the commander of the Northern Brigade, General Ali Muhsin, who with the head of the al-Amar family heading the main Hashid tribal confederation, has formed an alliance with the ex-President since the 1990s that was unravelled during Yemen's Arab spring.

In addition, there are several other, but lesser prominent, elite groups, e.g. there are small groups of well-educated technocrats, some of whom reform-minded. In the last decades, professionals have been appointed to the top positions in government on the basis of their capability. Intriguingly, signs are there that after the turn of events in 2011 appointment of high ranking bureaucrats is more and more 'politicised' and influenced by party affiliation.

Members of political parties, with the long-term ruling party, the General People's Congress and also increasingly affiliated with the earlier opposition parties: Islah and YMP and some of the minor parties. Their influence generally comes from affiliation with other, especially tribal, elite groups. It is not inherent to a position in Parliament membership of the party or Parliament. The role of Parliament Members in fact is often mainly advisory. With a larger emphasis on the democratic process their role is getting more pronounced.

The country's business elite from places such as Taiz, Hadramawt and Aden which, though small in number, command considerable financial means. In the absence of significant foreign direct investment outside the oil and gas sector they are also one of the biggest investors in Yemen's productive industries. This group maintains close functional relationships with the political leadership.

The main patronage mechanisms are direct grants from the Government or neighbouring countries, benefits from spillovers of the oil subsidy systems, ghost jobs, access to jobs in security and military, and access to public contracts and licenses. What is striking is that compared to other autocratic countries, part are direct cash transfers rather than rent-seeking systems. The amounts have been substantial. The number of ghost teachers (who only exist on the payroll), for instance, is estimated at 40% (Egel, 2009).

Direct budgetary support was provided to main tribal key persons directly from the national exchequer through the Department of Tribal Affairs and from the contribution of neighbouring countries.[13] These payments, called *mezaniyy,* have been particularly extended to tribal elites and regional influential persons. The amounts are not disclosed but are substantial. Philips (2011) describes an emergency budget made available in 2008 to quell unrest in Sa'ada and in South Yemen, amounting to US$1.75 billion, at the time 20% of the annual government budget. Another amount is the annual

[13] There is also the persistent rumour that part of the oil revenues in Yemen never went into the financial records but went directly to the accounts of the ruling family. Within the army a similar system of direct payments is in place. Salisbury (2011) describes that "the military's budget is, apparently, a single line item in the national budget; thus, how it gets distributed is entirely the decision of military elites. With no transparency or oversight, the military's large budget allocation is principally a substantial patronage payoff to key military elites".

payment of US$10 million to the most powerful tribal elite family by the Kingdom of Saudi Arabia (Philips, 2011).

Diesel subsidies are another source of patronage. The subsidy on fuel accounted for 22% of all government expenditures in 2009 (World Bank, 2012). One source (Philips, 2011) states that, at least 50% of the public money allocated to the diesel subsidy (in 2008, close to US$3.5 billion – equivalent to 12% of GDP) was 'diverted'. The diesel subsidy has, among others, been a major perverse incentive for intense groundwater pumping as well as serving many other functions (Hellegers et al., 2011) but has affected so many other sectors of the Yemeni economy that it is hard to disentangle it. The subsidised fuel was either smuggled or transferred on paper by the regime's elite, who resold it at the international market at profit (Philips, 2011).[14] Diesel import increased spectacularly tripling between 2000 and 2007. This increase cannot be explained by increased demand within the country and relates more to an increase in corruption and elite capture of the state budget. The amount of subsidy has been an issue of high controversy and since 2012 an attempt has been made to scale it down.[15] The IMF has been pushing for reductions – and getting them since at least the mid-1990s; this was after all the rationale of the AFPPF, which was set up in 1996. There were also diesel price increases and related riots around 2005. At the time some members of Parliament argued that the money so saved rather than balancing public budgets should be placed in discretionary project funds for Parliament Members. This would have consolidated the patronage system, through with a shift to other central 'dispensers' – i.e. the members of Parliament.[16]

The distribution of jobs including that of ghost workers was a third important mechanism to build power relations. The ghost worked phenomena is quite widespread and according to one source extends to one-third of the army (Salisbury, 2012). The deployment of ghost soldiers entitles one to their salaries as well as the related allowances. Egel (2013) has assessed that the distribution of public funds for education (including actual and ghost teacher positions and school buildings) correlates positively with the tribal heterogeneity in areas: the more tribes the higher the level of leveraging regular government support and access to special funds.

Privileges in contracts and business licenses are the fourth category of patronage. One of the most important examples is the Yemen Economic Corporation (Yeco), which is largely owned by members of the Yemeni army and which is said to be subsidised by the state at an amount of 100 M USD a year. Yeco is also often recommended as the business partner in foreign joint ventures.

Furthermore, members of the elite group have also been successful in obtaining business licenses for banks and the mobile telephone providers.

Privileged access to public funds, in the water sector the most important one has been the Agriculture and Fisheries Production Promotion Fund, in existence since 1993, with spending of more than USD 150 M. This fund is replenished from a mark up on petrol sales. Tribal leaders have been able to make claims to this fund. It has, to a large extent, been used to fund the construction of small dams with limited or even negative impact – with the majority of dams collecting limited water and having

[14] This is corroborated by the unusually high diesel turnover in districts with port facilities, suggesting that a large part of the subsidized diesel is transported to districts from where it can be shipped out (Al Weshali et al., forthcoming).

[15] During the political crisis the diesel subsidies rose dramatically as a result of a suddenly instigated black market. The sudden withdrawal of subsidized diesel from the market during the political crisis and the reduction of subsidy after the crisis had a particular effect on groundwater irrigation in the Tihama and on vegetable cultivation in general, where profit margins are smaller. Irrigation for perennial crops, especially the highly profitable qat and grapes was relatively less affected (Al Weshali et al., forthcoming).

[16] This would have created a system very similar to that in Pakistan where Members of Parliament have extensive discretionary powers in budget allocations and job postings (Lieven, 2011).

their bottoms sealed, making them less effective for storage or recharge of groundwater (Chevalking, 2008).

Connecting to the institutional domain

In spite of the above, a large and almost parallel effort has gone into building up a modern system of government in Yemen. Reforms have been undertaken in most sectors in the last decades. However due to the decentralisation, there is often little connect between organisations at central level and at governorate level. The Ministry of Agriculture and Irrigation (MAI), for instance, has little leverage over the working of the Agricultural Offices in the governorates and operates its major programmes through parallel special units. The Ministry of Water and Environment (MWE) itself has no pendant at decentralised level but the different Authorities under MWE have units in several, but not all, of the governorates. In other words, the administration is not unified and there is no staff exchange between central government and governorates. There is still a tendency for fiduciary and effectiveness reasons to have projects implemented through special organisations with separate field units and a separate project management structure. A prime example in the water sector is the Social Development Fund with special staffing arrangements and salary structures and project administration. In the water sector the largest investment has been funded by World Bank, such as in recent times the Groundwater and Soil Conservation Project (budget USD 110 M) and more recent the National Irrigation Program. These projects created their own temporary outreach arrangements, such as an Irrigation Advisory Services staffed by contract employees.

There has been substantial effort in setting up the institutions and creating a regulatory system for groundwater management in Yemen in the last two decades (WEC, 2012). The first main feat was the establishment of the National Water Resources Authority in 1995[17] that formally took over the water resources management activities from the Ministry of Agriculture and Water Resources at the time, as well as the water monitoring and mapping functions of the then Ministry of Oil and Mineral Resources.[18] In the years to follow branch offices of National Water Resources Authority (NWRA) were established in seven out of 24 governorates. The Water Law was promulgated in the 2002, after protracted preparation and insistence of bilateral donors active in the water management sector in Yemen. The Water Law was amended in 2006 with only minor revision. A more substantial revision was the Bylaw of 2011 that has given, among others, large powers to Water Users Association in regulating water use within their geographical areas and also entails specific operational regulations for the functioning of Basin Committees.

In 2003, soon after the announcement of the Water Law, the Ministry of Water and Environment was established, taking over from the Ministry of Water and Energy and incorporating the Environmental Protection Agency that used to be under the Ministry of Tourism. NWRA also reported to the MWE, in addition to the authorities for urban and rural water supply. A major feat was the development of a multi-year national water plan: the National Water Sector Strategy and Investment Program (NWSSIP), 2005-2009, setting out massive investment and technical assistance to the water sector. The NWSSIP was updated in 2008, then re-endorsed in 2011, though little of the planned investment and assistance has been forthcoming.[19]

Much of this was induced and financed by donors, in particular GIZ, DfID, Dutch Government and World Bank. The Dutch Government, for instance, took it upon itself to provide budget support for

[17] Formerly: High Commission on Water.

[18] The Ministry of Agriculture and Water Resources was subsequently renamed the MAI in 1996.

[19] A harmonised sector programme along the lines of the Paris Agenda – supporting both the MAI and authorities under MWE, including NWRA – was conceived in 2009. It was supposed to be supported by the World Bank and the German and Dutch Government. Also this programme was scaled down in budget and continued with the World Bank as a single supporter.

staffing to the National Water Resource Authority, initially for three years, to set in place a better incentive structure, which was then to be taken over by the Ministry of Finance.[20] International water sector support in Yemen has worked exclusively in the institutional and technical domains, seeking solutions primarily in terms of reform, regulation, data systems and water use efficiency measures. The existence of enormous government subsidies for diesel or water harvesting in highland small dams was for a long time not addressed, though repeatedly raised (World Bank, 1997; Ward, 2000; Ward et al., 2007). It was only after the political turn-around of 2011, that a systematic effort in downscaling these perverse incentives set in, most prominently the reduction of diesel subsidies. This was also driven by the shortfalls in public finance.

Most of the external support activities were directed at the institutional domain rather than addressing the political system. A case in point is the report of McKinsey and Associates (2010), noting the ineffectiveness of the NWRA in regulating water use it proposed to replace NWRA with another regulatory body, reporting this time to the cabinet of Ministers rather than the Minister of Water and Environment only – seeking a minor and probably time-consuming change in the institutional domain only. Caton (2007) has argued that much of the international engagement in the water sector has, in general, been lacking in context specifics, with a heavy reliance on concepts such as IWRM (Integrated Water Resources Management) but less understanding of stakeholders' dynamics or direct engagement with some of the factors underneath the depletion of groundwater – such as the investment in micro-dams or the subsidising of diesel consumption for groundwater pumping.[21]

Another point is that much of the institutional strengthening was oriented towards national institutions – but there has been less engagement at local level.

Essentially, Yemeni life is decentralised in nature – as is also clear from the system of securing local loyalties to keep the country intact (see section 3.1). The society, institutions and economics are all essentially local and bottom-up by their very nature. This means that national institutions can at best set an enabling framework and create the right incentive system, but that effective management has to come from local processes.

Groundwater use and management

Political interest in groundwater management from the top leadership has been negligible[22] during the Ali Abdulla Saleh period.[23] The position of the political leadership is best described as indifferent. New institutions were created but little changed in the arrangements that promoted imbalanced groundwater management (Zeitoun et al., 2012). There has been discontent that the Water Law has not been much invoked even where there were opportunities (THIGJ, 2014). A system of GPS tracking of drilling rigs for instance – though technically feasible – was not made operational. A sticking point has been that irrigation, the main water using sector, has remained with the MAI and attempts to reorient the Agriculture and Fisheries Promotion Fund towards investment in efficient agricultural water use and

[20] In the end, this support was provided for more than six years and not taken over by the Ministry of Finance.

[21] Though Ward et al. (2007) and Zeitoun (2009) contain useful political analyses it has been more difficult to engage in political action in this field, probably due to the intractability of the political system.

[22] There is a parallel to the 'thriving on chaos' phenomenon, whereby a huge security problem is made to translate in external financing. A telling example is the National Water Conference of 15-16 January 2011, largely funded by German Development Aid. The conference was explicitly organised to create political will for management. The President was supposed to attend at opening and closure, but in the end kept distant. The Conference was a partial success though, with the Prime Minister signing off on the concluding Sana'a Statement in February 2011.

[23] A change is not to be taken for granted: in an interview in May 2013 in Sana'a with Thomas Friedman, the new President of the Republic of Yemen Abdrubah Mansoor assumed the main solution would be in desalinisation. It appears in the current situation that the attention of the new political leadership is political stability rather than sustainable resources management (Al Alauqi, pers. comm.).

effective recharge rather than inefficient upland water storage reservoirs never materialised. Subsequent Ministers of Water and Environment were not able to even meet the President.

The price of the autocratic system, as explained by a former cabinet member interviewed for this study, is that the basis for decision-making is very narrow and centralised on a limited number of people with a limited span of attention.[24] In the words of the cabinet member: [25]

> Leaders are more interested in political issues directly linked to their hold on power. Somehow, the water crisis and its impact on sustainable development is not an important issue to be concerned about, and that is why we lacked the leadership to think through Yemen's water problems. And as a result the range of potentially effective interventions in the Yemeni political context is really limited compared to other countries where institutions and laws are more developed and effective in implementing water rights, metering, water pricing, controlling pumping, and regulation of drilling.

A second and probably overriding explanation is that dealing with groundwater management is beyond the span of control of the President and other national figures, as these are local affairs, taken by local farmers, where in the context of Yemen the President has very little to contribute. This is also reflected in the political system that relies strongly on supportive local elites. A third explanation for the lack of interest is opportunistic. Again according to the cabinet member:

> It is more attractive for the President to deal with issues other than groundwater management, because he cannot do much about it anyway, whereas other issues such as terrorism and security will bring you much financial support from outside, whether or not they do constitute big problems.

The issue hence is not only a matter of political will, but also of political capacity: the ability to deal with issues and to influence groundwater management. Groundwater may not only be a low priority because of other more pressing priorities but also as a no-go area for the President in the context of Yemen, with a state without a systematic presence at local level, a limited span of control and strong, largely autonomous communities. The patronage system that developed in Yemen to tie different elites to the autocratic rule has made things worse. Diesel subsidies reducing the costs of pumping and investment under the AFPPF developed systems that disturbed recharge. Because of the need to perpetuate the patronage system neither arrangements were changed, in spite of considerable pressure to do so.

This leaves the interest in groundwater management with government organisations that are however in many cases weak and under-resourced (Ward et al., 2007). Most progress is made in special projects – that however prevent regular government services to come to the fore. Examples of special arrangements are the Social Fund for Development, the Public Works Project, the Groundwater and Soil Conservation Project or the Sana'a Basin Water Management Project. These projects benefit from good management arrangements, well-paid staff and are supervised by neutral steering committees and were able to deliver the outputs they were set out to achieve. Some government organisations – such as some of the NWRA Branch Offices – have developed a strong liaison with local farmer groups and created effective awareness that there is a need to control groundwater usage, but in general the operational effectiveness of many of the government organisations that relate to water management suffers from an under-resourcing of their services.

Given the nature of the state in Yemen in fact the larger scope for groundwater management is in local regulation (Ward, 2009). This is also described in van Steenbergen et al. (2011) and Taher et al. (2012). These papers describe 26 communities that introduced rules regulating groundwater use, either

[24] An experience recounts the meeting by the then Minister of Agriculture, who at the time convinced the President of the urgency of the water crisis, but found after a number of days that another pressing topic had taken his attention.

[25] Interview with former Minister of Agriculture, January 2011.

by setting minimum distances, regulating maximum well depth, introducing no pumping zones, and combining different wells in a single system. The rules were introduced at the initiative of either local leaders (sheykhs), a water user association (WUA) active in the area, or any other group of farmers. There are a number of examples where a regulation that started in one area expanded to other areas. Most of the rules are very visible and hence do not need special efforts to inspect whether they are applied. The Bye-Law 2011 to the Water Law, which was passed in a period of turmoil and has not had much follow-up, also places large responsibilities on powerful WUAs.

Van Steenbergen et al. (2011) also found that though the general perception in Yemen is that the Water Law and particularly the licensing procedures that are part of it are not systematically applied, the introduction of the Water Law has made a difference to local management. In several of the 26 cases reviewed reference was made to the 2002 Water Law by those that initiated the local rules, as they could use the argument that groundwater was no longer a free-for-all. In one case (Wadi Al Qarada) there was a tacit understanding that members of a WUA would lodge a complaint when the Water Law provisions were violated in a neighbouring community/WUA, and vice versa – so as to avoid direct conflict within the community itself. Another sign of the Water Law being taken seriously, though more discomforting, is that in several areas farmers had drilled unused wells prior to the promulgation of the Water Law, the idea being that these wells may be opened in the distant future, thus avoiding the licensing provisions under the new law. The Law, though not directly implemented, has made a difference in the way in which community members engage with one another. The same can probably be said for some of the other new institutions and initiatives in promoting efficient irrigation and awareness.

Both the By-Law (to the Water Law) no 112 (2011) and resolution no (6) of 2011 of the Minister for Water and Environment – both passed in a period of turmoil – create far-reaching opportunities for WUA establishment and functioning. The By-Law among other stipulates that "beneficiaries and users are to establish associations, committees and unions for regulating water resources and operation and maintenance of its structures". The water users are also able to establish unions of WUAs.

The outcomes of the National Dialogue, the broad consultation process on the future of the Yemen State in 2013-2014, emphasised the importance of local management and stronger role of communities. The National Dialogue that involved a large cross section of the population and leaders from different social groups also strongly recommended that Yemen would become a federal state. The proposed decentralisation with six federal regions as independent financially, legally, and administratively will have very important implications for the institutional structure of the water sector. It will, in principle, create shorter lines of contact between authorities and water users – and create more possibilities for enforcing water management on the group. Water is earmarked as a national sovereign wealth and laws shall regulate the ways and means to conserve it and to rationalise its uses: a sensitive issue is the distribution of water over the ephemeral river courses with much water captured in storage dams in the highlands, that are situated in different regional states. One may also argue that the federal state will create the impetus to negotiate such issues rather than having them left unspoken. The National Dialogue outcomes also emphasise that it is a basic right of humans to obtain clean water of sufficient quantity with suitable price. This could also be used to better protect groundwater resources where pumping for irrigation often competes with securing drinking water (Ministry of Water and Irrigation, 2014). However, the transition to the federal state since the conclusions of the National Dialogue were finalised in early 2014 has been hampered by a continued political crisis, taking new shapes as well, such as the ascendance of the regional groups.

GROUNDWATER IN ETHIOPIA

Whereas in Yemen groundwater resources development has completed a full cycle and an area of 400,000 ha is irrigated from groundwater (up from 17,000 ha in 1970), Ethiopia is at a very different

stage of development: groundwater in Ethiopia is still a large unused potential and the area with groundwater irrigation is estimated to be as little as in Yemen 30 years ago.

The development of groundwater, in particular shallow groundwater, however, features importantly in the national and regional plans for small-scale irrigation development and for water supply, and is seen as a major avenue for rural poverty reduction. The plan is to ultimately reach 5 million ha under irrigation at the end of the second Growth and Transformation Plan, i.e. by 2020. The Ministry of Water and Energy intends to develop 55,000 ha from groundwater during the current period (2010-2015). For the next planning period (GTP2) a quantum leap is foreseen – with plans to irrigate not less than 2 million ha from groundwater, much of it from household operated shallow well systems. The high ambitions for the country as a whole are mirrored in plans for the different regions. Amhara Region, for instance, has launched the ambitious 'one family, one well' programme. Tigray Region intends to bring 50% of all cropland under irrigation, a large portion of it from groundwater. Groundwater development is also the basis for the water supply programme. The Universal Access Plan has high ambitions – reaching 98% drinking water coverage for rural areas in 2015 – all to be met from groundwater (World Bank, 2013).

Understanding the political domain

In some ways the contrast between the political system in Ethiopia and Yemen could not be larger: whereas the State in Yemen is not united and relies on balancing a wide array of elite groups each with its own local base, Ethiopia tries to follow the East Asian model with a dominant political party controlling government functions. There is no competing power base. The state is also the formal owner of land, giving it a large leverage to allocate resources though, since 2005, efforts at land registration have accelerated to create more security for land users.

One thing that, for instance, stands out is that whereas in Ethiopia there are plans and visions about water resources usage, these are absent in Yemen. The political system in Ethiopia is labelled the 'developmental state', outlined in speeches by the late Prime Minister Meles Zenawi and written down in an unfinished manuscript[26] (Zenawi, 2006) that is available on the Internet. It is also described in a contribution to a volume on governance in Africa (Zenawi, 2012), edited by, among others, Nobel Prize Laureate Joseph Stiglitz.

In the 'Africa: Dead Ends and New Beginnings' manuscript (Zenawi, 2006) basic principles of the developmental state are described: the failure of neo-liberalism and the inability of the market to deliver social development and create productive capacity among rural population. The 'New Beginnings' manifesto further emphasises the role of agriculture as an engine of growth; the importance of equitable distribution of rural assets to accelerate the use of rural technology and support the non-agricultural sector;[27] the distrust of short-term 'rent seeking' by the private sector; and in general the necessity of a strong role of the state to achieve accelerated growth.

The corresponding political paradigm is the 'dominant party democracy' or 'dominant coalition democracy'. The argument in Zenawi's political manifesto is to put the evolution of the developmental state (and the social capital and trust) before seeking full democratic legitimisation. The argument against electoral democracy in early stages of development is the danger of political clientelism on ethnic lines for instance, and of discontinuity of programmes that need a longer-term engagement than five-year election cycles. Continuity in the developmental state is supposed to be explicitly with the party, not with individuals – a contrast with autocratic systems such as in Yemen. The dominant party

[26] Based on the work done for his MSc at Erasmus University (Rotterdam, the Netherlands) completed while in power.

[27] The argument has been labelled 'Leninist' by some commentators – and goes against the theory that skewed distribution frees up more resources to invest.

should develop functional alliances within the society, in particular with the urban middle class and farmers associations, whereas there is a far more guarded approach towards a role for the private sector or civil society. The hope is for a 'flying geese' critical mass of like-minded African developmental states to move Africa's performance upward.

The features of the developmental state everywhere are to be seen everywhere in Ethiopia – the electoral prominence of the Ethiopian People's Revolutionary Democratic Front (EPRDF), the ruling coalition of four regional parties with a paramount role for the Tigrayan People's Liberation Front (TPLF); the close integration between party membership and government functions: and at village level the large number of committees populated mainly by party members (Belay, 2010; Rahmato, 2008). The reliance on an inner circle of party members extends to the army and security forces that are in general – different from Yemen – not prominently visible in public. As in the government administration a group of party-affiliated confidantes, often former TPLF fighters, occupy the key positions in the armed forces and the National Intelligence and Security Office (Dom, 2009). Above a certain level government positions are only given to members of the EPRDF. In spite of this, many professionals avoid to join the ruling party, for fear of becoming a captive of party mechanisms and policies, or fear of a personal setback were there ever to be a regime change.

There is strict discipline within the EPRDF called 'democratic centralism'. Belay (2009: 83) describes this:

> individual members have freedom to discuss and debate matters of policy and direction. But once the decision of the party is made by majority vote, all members are expected to uphold that decision… It is a belief in a 'correct line' that once agreed upon, cannot be contested.

The system is further reinforced by '*gimgema',* frequent evaluation sessions that party members at all levels undergo by fellow members.

Constitutionally, Ethiopia is a federal country, consisting of nine regional states and two special urban regions. Even though 80% of state revenue in Ethiopia is generated at central level, the regional governments have considerable discretion over budgets and manage substantial financial resources. They can make their own laws in certain fields and create their own government departments. The role of the Federal Ministry of Water, Irrigation and Energy is relegated to making policy documents (which in the absence of a direct connection with the implementing regional organisations is sometimes difficult), the implementation of some externally funded programmes and engagement with transboundary issues at national and international levels. Within the water sector some of the larger investments are planned (sugar development programme, Reconnaissance Dam) directly under the national political leadership and implemented through special programmes. Policy making is also largely done within this leadership structure, usually in consultation with regional political leadership. The prioritisation of groundwater development, for instance, was first set out in an internal strategy document on water-centred development (FDRE, 2009), which was endorsed by the cabinet and then found its way to official five-year Growth and Transformation Plan (2011-2015). In comparison, documents issued by the Federal Ministry, such as the National Water Policy or the Basin Master Plans, serve more as guidelines and are less operational and specific.

The government and ruling party coalition also have a strong presence at local level, in the so-called *kebelle* or peasant associations. At this level, interactions occur in three important ways (Rahmato, 2008): (1) rural population providing voluntary labour in several activities including watershed protection, or being engaged in safety net type activities in local infrastructure, (2) the engagement of villagers – mainly the party members – in a large number of formal and ad hoc kebelle committees, or as model farmers ('cadres') and militia and (3) the activities of local courts – again largely staffed by party-affiliated members. For ordinary Ethiopians, kebelle officials and party cadres personify the state in their everyday life. Rural inhabitants' welfare is influenced considerably by their good relations with *kebelle* officials, who oversee services, leading to control and repression. Higher-ups in the EPRDF select

these officials before they are submitted to popular approval (Dom, 2009; ICG, 2009). Relations between officials and the rural population are typically not on an equal footing. Moreover, though land certification has speeded up after 2005, the absence of individual property rights and the insecurity that comes with state landownership has contributed to a degree of "peasant subordination" (Rahmato, 2008).

Power is hence centred in the political government administration and – unlike in Yemen – there are no strong elites outside the government. The parliament in Ethiopia, as is expected in a 'dominant party democracy', has no influence. By admission of one of the parliamentarians, members are being given talking points and decision-making does not take place in the house. The intense political debates take place within EPRDP party sessions rather than in parliament.

Corruption, an important source of patronage in Yemen, is modest in Ethiopia. Whereas patronage was essential for the survival of the political system as it evolved in the last decades in Yemen, this is not the case in Ethiopia where ranks are closed. This is not to say that there is no favouritism in the award of land titles or business concessions, but the extent is far less than in other countries and it is not tied with obtaining political support but more with rewarding members of the inner group. The corruption in rural drinking water supply for instance is low, especially given the magnitude of investment and the decentralisation. There are not many opportunities for rent seeking, as funding arrangements and project prioritisation is systematised, reasonably transparent and rule-based (Calow et al., 2012). A spot check in public well drilling found that 'short drilling' (i.e. developing wells of a more limited depth than contractually specified) was limited to 10% of the drilling points investigated. The main concern is the undue advantage of state-owned service providers in contract awards and the limited scope for the private sector to enter as a result of licensing requirements (Calow et al., 2012).

Connecting to the institutional domain

By virtue of being a federal state the set up of government organisations responsible for groundwater development differs between the states, but in all states there is an equivalent of a Bureau of Water, in charge of rural water supply and water resources management. Responsibility for irrigation lies in a few states vested in the Bureau of Water, but in most other cases irrigation is management by the equivalent of a Bureau of Agriculture. Local authorities below the level of the regional states, in particular the district (*woreda*) and the village (*kebelle)* are increasingly responsible for providing public services in Ethiopia. Woreda's (districts) are to manage block grants and can prepare their own budgets and raise revenues. Capacity issues are paramount, because of frequent staff turnover and the relatively low salaries at district level.

As may be clear from the preceding section, there is no clear distinction between the political system and government institutions in Ethiopia. In this regard, Ethiopia is entirely different from Yemen. Whereas in Yemen the political elites are not systematically connected to government but have their own local power bases, in Ethiopia there is a strong integration between bureaucracy and politics, with senior positions exclusively given to ruling party members, whereas at local level the main government committees are staffed by political cadres as well. As a consequence the political system and the public institutions form a hegemonic power block. All government institutions are expected to serve the implementation of policies and strategies formulated by the dominant party leadership. This means that bureaucrats and technocrats from top to the very low level in institutions are expected to be involved in the political system – preferably as recruited members – of the EPDRF. Another practice is that of shadow mentors monitoring the performance of key staff.

The political discipline and integration within government organisations is also reinforced – maybe rather oddly – by the use of business management techniques, such as Business Process Reengineering (BPR), Balanced Score Cards, recently a 'one-to-five' team organisation model, known as *yelimat sarawit ginbata*. In these mandatory management exercises the structure of the concerned work unit is

redefined and individual job descriptions and functioning are discussed. Whilst this is said to have improved performance (Setegn et al., 2013), it also systematically creates a degree of insecurity for government staff, making them more sensitive to party discipline. Apart from these techniques there are the usual regular staff transfers that make sure no entrenched powerbase is built up by virtue of long tenure.

Ethiopia has a long tradition of development planning, continuing into the current regime – with an increasing alignment of donors or development partners (Dom, 2009). There is systematic attention for major areas such as food insecurity and rain-fed agriculture within government programmes – more than in Yemen, where the issues have received less government attention. A special characteristic is the high target setting that goes with the ambitions of the developmental state. In Ethiopia the targets are set at generally unrealistic levels, such as the 98% rural population drinking water coverage in 2012, which date was later revised to 2015[28] or the 5,000,000 ha under irrigation in 2020. The high target setting however serves a larger plan: though the targets are unattainable they lead to a frenzy of implementation and whilst targets are not met, considerable achievements are made. In the irrigation development campaign in Tigray in 2011 and 2012, for instance, under irrigation 40,000 ha were developed.[29] This was much less than the target of 170,000 ha, for the regional state but the achievement was still impressive because it was equal to the irrigated area before 2011 (Woldegeray and van Steenbergen, 2014). At the same time, the unrealistic targets also prevent complacency and keep even the best performers at tenterhooks, as nobody will reach the goals set.

The main mode of implementation is the 'campaign' mode, whereby all concerned government staff are mobilised to implement activities in fast-track mode rather than participation and mobilisation from within (Dom, 2009). There are also clear drawbacks of this system: the high targets make it difficult to plan realistically. The campaign mode often also results in low quality of performance:[30] the non-functionality of irrigation systems for instance is estimated on the basis of a series of case studies to be 44%. This is due to inadequate attention to details, hurried social mobilisation and developing irrigation systems far away from market infrastructure. There is also again the high turnover of government staff and a loss of capable staff to other employers, especially to NGOs.[31] The strong presence of the party in the system has enforced upward accountability among public officials and within government systems and less engagement with direct stakeholders and performance on the ground (Rahmato, 2008). Moreover, the emphasis is on the government delivering the development goods and there is less room for others, in particular civil society or the private sector, to play a role.

Link to groundwater management

There is no lack of political will in Ethiopia to promote groundwater use: this is obvious from the high targets set for drinking water development and irrigation and the financial resources reserved for investigation and the development of pilot projects. The challenge is to broaden groundwater development for poverty alleviation (Kebede, 2013). The regional and national governments are main

[28] This may be compared with a coverage of 41% (according to Ministry of Water and Energy) in 2005 or 27% by the Joint Monitoring Program of WHO and UNICEF in 2005, when the UAP was formulated. The figures had reason to 65% and 42% in 2010 according to these two sources. In 2010/11 a Nation Wide Inventory of all drinking water systems was undertaken, that put coverage at 49%. This shows that progress is made but not in comparison to the targets set at the UAP (Butterworth et al., 2013).

[29] Though quality of the work is an issue. Source: own research.

[30] In irrigation development project very meagre resources (less than 3%) are set aside for reconnaissance, project design and engagement with farmers (source: own research).

[31] One of the top agendas discussed on the 7th general assembly of EPRDF convened at Bahirdar in March 2013. Concerns were raised that the leadership development at middle and lower level, which were hoped to replace the senior ranks, is below expectation.

direct investors in groundwater irrigation, particularly from relatively deeper wells (World Bank, 2013). The approach to implementation in the developmental state has often been the campaign mode with a strong leading role of the government, but this does not always sit easily with the private development of groundwater resources by a multitude of small farmers.

The uptake of some of the government-initiated projects has been below expectations. The first major government investment was in the Raya-Kobo Valley in the northern part of Ethiopia. The valley covering parts of Tigray and Amhara Regional State is among the most fertile areas in the country with good groundwater potential mainly at a depth of 20-30 metres. Despite its potential, the area has been suffering from droughts. The area was the scene of the devastating drought in 1985. At present food-insecurity is still a major problem in the area with the majority of farmers depending on relatively low productivity spate irrigation.

The Raya-Kobo Valley was studied in four major investigations before the so-called Kobo-Girana Valley Development Project was started in 1999 (Radema, 2011). Under the project 256 boreholes were developed. Only a small number of these wells became operational over the years: 54 in total. The reasons for this lacklustre achievement were several – but mainly related to the errors in implementation: ordering of submersible pump sets that did not match with the well diameters for instance or electricity power lines not being connected to the installed well systems. The 24 wells that were made operational in the southern part of the valley (Kobo) in Amhara Region were placed under a government project organisation, the so-called Kobo-Girana Valley Development Program Office. This Program Office arranges all inputs for farmers – including the operation of sprinkler systems. It decides upon the crop to be grown and takes care of bulk purchase. The role of farmers is mainly that of providing labour and it is hard to revert this and change these project farmers into agricultural entrepreneurs. In the northern – Raya – part of the valley a different, more enterprise-oriented, model was followed. In each of the wells operational in Raya a farmer cooperative with, on average, six members, was put in place, that manages the well system and employs its operator. A main challenge for the irrigated farmers however was to secure the inputs required: seeds, fertiliser and pesticides and undertake the more risky commercial farming. These difficulties led most of the original farmers to lease out their land to relatively young dynamic farmer entrepreneurs. These young farmer entrepreneurs typically come from other rural areas, and have access to some family financial resources. Unlike the original land users, they also developed the skills required for commercial horticulture – such as obtaining the right inputs and selling at the right markets. This phenomenon of young farmer entrepreneurs is common in almost every recently developed irrigation systems in Ethiopia. In some cases this class of itinerant farmers even develops shallow wells themselves. These enterprising young farmers are not recognised or supported by government, for one because they do not fall in the delivery models of the *kebelle* administration. In general, the orientation on government interventions sits uneasy with stimulating a class of emerging small capitalist farmers that will invest their own resources in groundwater development.

There is a third model in promoting groundwater use in Raya Valley. This is the allocation of land with high groundwater potential to relatively large investors. These investors are a mixed group – retired security staff, institutes like universities and NGOs, urban businessmen, all of them well connected. More than 4000 ha of land was licensed for development to such investors, yet unfortunately this land also constituted the buffer zones for livestock during drought periods. These land leases caused considerable local tension, as small farmers regretted opportunities that were provided to outsiders rather than to local farmers. The argument was that investors would have the capital for productive land development but with one or two exceptions nothing much happened.

Elsewhere in Ethiopia, private development of groundwater has come up in a number of places spontaneously, without government support – but the picture is patchy and adds up to less than 20,000 ha probably (World Bank, 2013). There are a few areas of intense groundwater usage and very shallow well development (Koka, Haromaya), usually areas close to urban markets or areas producing the

profitable emerging *chat* (*Catha edulis*) stimulant crop, but there are large areas where groundwater resources, even at a depth of 5 to 6 metres are not tapped. A second development is the conversion of some drinking water systems into irrigation facilities by local farmers.

There are a number of areas where groundwater development has led to minor conflicts. These conflicts have been mainly related to easy access to groundwater than to overuse (van Soelen, 2013). An example is Degem where a spring was developed for drinking water. Its discharge was plentiful (6-10 litres per second), whereas for the rural water supply system 1-2 litres per second was sufficient. The overflow was allowed to go to the valley. After one farmer fitted a t-section in the water supply system to irrigate carrots and earned USD 2000 in the process, other farmers followed suit. When the upstream landowners also intended to develop this profitable business they were stopped by the downstream farmers. The downstream farmers would patrol the system with guns to make sure upstream land users take no water, unless it is for drinking. The issue was resolved when downstream farmers started to develop their own groundwater resources for irrigation that were available within a depth of five metres. At present, the mechanisms to regulate or to guide are not in place and either local elders or government staff at *kebelle* level may intervene or not. In most cases, there is no overt conflict, but considerable tension in which one party is gaining better access to groundwater resources.[32]

Political will for broad-based groundwater development is very much the outcome of the way the developmental state operates. Particularly with the focus on household systems, i.e. family-owned private wells, a link needs to be developed with the investment potential of many small farmers and the market opportunities. A number of projects promoted the capacity to install the relevant techniques in this regard, such as manually drilled wells and rope pumps. Though progress is made, the uptake is not near the high ambitions of the government or even the physical potential. The constraints are not mainly in the skills but also in a conducive business climate for commercial smallholder farming. In two programmes that trained technicians in rope pump installation and manual drilling, respectively, only 20% of the trainees were able to engage in viable business afterwards (World Bank, 2013). There are several reasons such as lack of credit and access to public contracts. The main bottleneck is not so much political will but to direct the resources of the state to stimulate a viable environment for small business rather than the developmental state continuing as the direct and sole provider of services.

COMPARISONS

In the previous two sections the autocratic and oligarchic political system in Yemen and the dominant-party 'developmental state' in Ethiopia were described and the links with institutional arrangements and the actual groundwater development and management were discussed. Table 1-3 give a summary overview of main points in the previous two sections.

As may be obvious all the way down through these two different systems strong link exists between the political system, the positioning of different parties and access to power, the role of central and local government, the propensity to plan and vision, the effectiveness of government organisations, the extent of corruption, the influence of informal governance mechanisms, the scope for private initiative and the political interest in groundwater management and development in general. On the one hand, there is the indifferent oligarchic system in Yemen with politics maintained by elaborate clientelism – building up a local support base but at the same time undermining traditional moral leadership. On the other hand, there is the systematically overambitious developmental state in Ethiopia with internal

[32] A study was done into eight areas of intense water resources development – following reports that conflicts had taken place (van Soelen, 2013). In six out of eight cases there was tension, best described as void, but no direct confrontation of interests.

Table 1. Characterising the political domain.

	Yemen	Ethiopia
Ruling system	Autocratic (oligarchic) Co-opting different elites, especially tribal and security including high-ranking military officers	Developmental state Dominant party coalition democracy
Mechanism of control within ruling system	Different forms of patronage	Party discipline Democratic unity
Mechanism of control with population at large	Partly through intermediaries (sheykhs and regional influential); little or no government presence at village level	Local political government extends to village level, strongly dominated by dominant party Landownership by state, though gradually transferred
Link to formal democratic system	Parliament is advisory	Parliament is advisory
Centre-region relations	No unified system (nominally, there is the local authority law) but uncertain move to federal structure	Power and budget with regions – balanced by 'democratic centralism', i.e. negotiated party line

Table 2. Link between political domain and institutional domain.

	Yemen	Ethiopia
Link to government institutions	Key appointment in the past on professional merit – but new strong tendency towards political appointment	Party and government inseparable Key government positions to party members High staff turnover
Link to water users	No linkage – provision under Water Law for basin committee not operational Some local management by local initiative Supported by thinly spread bureaucracy (NWRA)	No regulatory mechanisms in place Strong party presence at local level
Implementation of development activities	Implementation through special arrangements (Social Development Fund, projects) Related to this existing bureaucratic systems are weak and undermined by persistent system of implementation through special projects and funds	Implementation through existing bureaucracy Frequent use of campaign mode
Corruption	Important patronage mechanism, e.g. weak monitoring system	Modest

Table 3. Links between political domain and actual groundwater use and management.

	Yemen	Ethiopia
Leadership interested in groundwater	Low – more rewarding or pressing priorities	Very much: to broad-based development
	It has no capacity to sustain interest in difficult issues	Part of agenda of developmental state
Orientation of government support	Money-wise marginal support to efficient irrigation/water saving/government subsidy to diesel subsidies	Orientation on public investment rather than facilitating smallholder private investment
	Agricultural Development and Fisheries Production and Promotion Fund – bias of investing in storage and not in effective recharge or efficient water use	Focus on high end (deep wells) infrastructure (submersible pump systems)
		There are efforts, but limited, to promote shallow hand dug wells for smallholder farmers (not institutionalised)
Stimulating use of groundwater	Diesel subsidies/ financial and in-kind support to irrigation projects/schemes	Very few private parties with sufficient capital
	Largesse invested in wells: there is much wealth to invest in deep wells	Regional/ federal governments supporting construction of shallow wells and deep wells
Controlling access to land and water	Some elite land grabbing in coastal areas/fertile deltas	Some grabbing of land and water by in-groups
	Water-law-based licensing procedures but not effective	Licensing procedure not effectively implemented
	Expansion of irrigated areas regardless of groundwater availability	
	In some areas run-off rights not water rights/these traditional rights violated or ignored in several areas	
Regulation	Law is more setting the context for local interaction – direct enforcement is limited	Well licensing system but not uniformly applied, little overuse however
	Examples of local governance	Local conflicts emerging – no local governance yet
Stimulating recharge	Investment in recharge through projects/local initiatives for rainwater harvesting for direct use and recharge	Increasing investment in watershed development using organised voluntary labour
	Neglecting agricultural terraces reduces recharge	

political party discipline overriding individual initiative. These different political systems affect the way groundwater is managed – for instance, in the role of the state to catalyse watershed investments, the implementation of investment projects through the regular state system rather than through special

projects and also the scope and space for private investment and initiative. Yemen and Ethiopia are also at two different stages of groundwater development – with Yemen exhausting its resources and Ethiopia still in an early stage and one can rightly argue that managing development is easier than managing over-abstraction. Yet the more directive role of the state in Ethiopia and hence the political capacity can also be seen in the leadership in undertaking intensive landscape-wide water conservation measures and the strong presence at local level to deal with natural resources management and conflict resolution.

In fact, as emphasised by Warner and Wegerich (2010) the politics that affect water management is not only those which deal directly with water but also concern the overall functioning of the political state. Groundwater management and development not only relate to water resources but are part of a much larger political picture. Shah (2009) has made the same point that development in the economy at large (like import rules or industry promotion) may have more influence on groundwater usage than any special groundwater-focused intervention. This bigger picture however at times disappears in discussions on water governance that focus on water only. Conflict and cooperation in groundwater, or the lack of it, are determined not just by competition for the resource but also by factors such as the interest or indifference of political elites in resources development or management; the mechanism of control within the ruling system and related to this the nature of relations between centre and local. In theories on conflict and cooperation, a recurrent theme, however, is how scarcity or abundance of resources can lead to conflict and cooperation in resources management, with scarcity leading either to Malthusian destructive competition or to Boserupian creative solutions and collective action (see, for a useful overview, Johnson, 2011). This suggests that conflicts and cooperation are mainly explained from the resource itself and overlooks issues of power and access or the general effectiveness of state mechanism and local institutions (Ward, 2009). It can ignore the larger context that affects and in some cases even creates the resource conflicts.

Using Zeitoun's (2008) classification of hard enforcing power, soft negotiation power and soft ideational power, the political system also determines which power can be used. Whereas much attention has gone into discussion on political will or the interplay of interests, a second issue is political capacity: the ability to deal with problems and mobilise either hard or soft power to that end. In Yemen, the capacity to address issues and show leadership is limited and fragmented, surprisingly maybe given the autocratic political system and the strong linkage with armed forces. The ability to excise hard power is limited by the different priorities of the political leadership, i.e. the balancing act described as 'dancing on the heads of snakes', and the essentially decentralised nature of Yemen's society and the autonomous nature of groundwater use.

In Ethiopia instead there is the party and government – held together by reinforced discipline rather than the distribution of privileges. This discipline and the strong linkages between all administrative levels create a structure to implement and enforce, or in other words use hard power. In Yemen instead state delivery mechanisms are weak though informal arrangements can be powerful. In Zeitoun's terminology in Yemen the main mechanism is soft negotiation power. Public spending is not strongly geared to development but to subsidy transfer. Development is in the form of special programmes and projects, and less part of the routine government operations.

In contrast in Ethiopia, the developmental state has high ambitions – reaching middle income status by mid-century for instance, developing Africa's largest hydropower dam, and achieving a complete agricultural transformation by 2020. In addition to the hard power the state makes frequent use of soft ideational power, at least in presenting ambitious future visions. This soft ideational 'can do' power gains credibility because of the hard power and capacity to implement in the institutional domain. In Yemen there is no such thing and the system under the long-term President has even been described as creating a system of crisis that justified the need for external support (Philips 2012) – even to the point of inviting widespread interference in internal matters. Water was not a priority for several reasons; an

important one being that the political top leadership had relatively little to bring to local groundwater management, having no leverage at that level.

Analysing the use of hard and soft power in Yemen and Ethiopia, the outcomes become different from what is expected. In the autocratic system in Yemen the state is not exercising any hard power in groundwater management: essentially because it does not prioritise groundwater management and because the use and regulation of groundwater is the prerogative of local players – and because it is inconceivable that the state could enforce the law for reasons of both weakness and 'natural decentralisation'. Instead, regulatory institutions in Yemen work very much through soft bargaining power. NWRA branches negotiate – and work – with local leaders, WUAs and farmers and here, in the current setting, are also the largest opportunities for effective groundwater management. The Law is not enforced as such but it has an important ideational soft impact, as it conveys the message that groundwater should be regulated and it is not a free-for-all.

In contrast in Ethiopia, the state has a lot of muscle, is internally disciplined, well organised and integrated into the political system. The state has the hard power to allocate land, develop irrigation systems and in general enforce its will, though in many cases it lacks the institutional capacity to fully deliver on its plans. It is also actively pursuing nation building and makes appeals to soft ideational power in presenting sweeping plans.

What it is partly lacking in Ethiopia is soft bargaining power – the capacity to constructively engage with other parties and, for instance, create the conditions for development-relevant investment by farmers and small enterprises. This reliance on hard power and lack of soft bargaining power may be an obstacle to the goal of promoting broad-based groundwater development for poverty alleviation at the envisioned large scale. The envisaged massive development of smallholder groundwater irrigation will have to be the sum of many individual farmer decisions that can be encouraged by the state – through special arrangements – but cannot be forced. In fact, some of the elements that make up the developmental state stand in the way: the uncertainty on land tenure, the reluctance to promote local credit for small irrigation facilities, the limited acceptance of the class of entrepreneurial young farmers, the upward accountability and democratic centralisation, and the state monopoly on investments.

More important than political will is the notion of political capacity, without which political will – expressed by the ambitions of political leaders – is of no significance.

In comparing Yemen and Ethiopia what stands out is the far larger capacity to implement in Ethiopia – having control over its own financial resources, with broad non-personalised leadership, a strong state presence at local level and strong linkage between central and local policy, partly internationalised within the dominant party system – not allowing the anarchy that is characteristic of groundwater use in Yemen. At present regulating groundwater exploitation for sustainability is not yet urgent in Ethiopia (though first conflicts are arising), but strong structures at district and local level are in place that can be engaged, if activated, in regulating groundwater use as they now play a catalytic role in groundwater recharge under the watershed development.

THE POLITICAL DOMAIN: DOES IT ADD VALUE?

The aim of this paper is to better understand the role of politics in groundwater management.

If one limits oneself to institutional development, capacity building and water governance only, one may shoot at the wrong target and overlook the political domain that has a huge impact on water management, but is not necessarily very visible. An example is the effort that went into strengthening NWRA and other central level organisations in Yemen to support better water management, whereas the effective interventions are at the local level – using the forces that can be triggered in every locality. Similarly, in Ethiopia the effective implementation is with regional governments that also have the budget rather than with federal ministries. Understanding the political domain in groundwater

management also makes it easier to understand seemingly irrational phenomena such as planning for unattainable targets as in Ethiopia or subsidies to large groundwater users in Yemen.

A better understanding of the political domain also helps to understand current boundary conditions for regulatory improvements and institutional reforms, and target political and institutional actions that are feasible and have a chance to effectively contribute. It will also help to set up better stakeholder processes, particularly engaging parties with access to 'hard' or 'soft' power. The default in political engagement is often to engage Ministers or Parliamentarians but one has first to understand if these carry any political clout. Exploring the political domain helps to better understand the position of the formal political systems and the power of different insider groups. Similarly rather than asking for more political will it is useful to understand what and where 'political will' is in a given context and with whom. One also has to look beyond the idea of political will and better understand political capacity and interest: there are challenges which are beyond the highest political leadership but can be nevertheless resolved with different sets of (local) players. It is important to know this so we know what to 'politicise' with whom and what not.

Often the words 'politics' and 'political' are associated with opaque, manipulative even corrupt, and unaccountable. There is often a sense of political issues being highly sensitive that cannot be, therefore, addressed, forcing one to keep living under a cloud, wishing for benevolent 'political will'. This is not how it should be. If one wants to promote better groundwater management one should engage with the political elites and gatekeepers just as well as with key persons in other domains, the institutional players and the communities of users.

ACKNOWLEDGEMENTS

This paper was facilitated by a research grant from the CoCoon Program (Conflict and Cooperation in Natural Resources) of the Netherlands Organisation for Scientific Research (NWO) 'Groundwater in the Political Domain' (2010-2014). The research activities included stakeholder interviews, retrieval of grey literature, policy tracing and fieldwork in eight communities in Yemen and six communities in Ethiopia.

The useful detailed comments of Christopher Ward and Seifu Kebede on draft versions of this paper as well those of as two anonymous reviewers of the NWO CoCoon program are acknowledged.

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