

Strengthening capacity of local governments to engage in Integrated Water Resources Management; experiences from the Netherlands

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Abstract

Local governments have a big stake in water resources management and a potentially important role to play to further IWRM. Two main strategies are identified in which local governments can enact that role: 1) through their engagement with water resources management institutions, and 2) by applying IWRM principles in their own mandate through local actions. In practice, however, their role remains limited and actions are sometimes isolated, as shown in a case study from the Netherlands. Reasons for that often come down to poor local governance due to weak inter-institutional relations, and lack of transparency in decision-making. This paper proposes a framework to analyse these capacity gaps. Such analysis can help developing recommendations for capacity development initiatives in IWRM.

Keywords

Local governance, local government, capacity, Integrated Water Resources Management, the Netherlands

Introduction: bringing IWRM to the local level

Integrated Water Resources Management (IWRM) has emerged during recent years as a response to the so-called “water crisis”, of which the manifestations are well-known and rehearsed. It is an approach which seeks to tackle some the root causes of this crisis: uncoordinated development, use and management of water resources. It aims to do so by moving away from traditional sub-sector based approaches (water and sanitation, irrigation, industry, environment, etc) to a more holistic approach to water management. IWRM is an approach based upon a set of key principles (the famous Dublin principles (WMO, 1992), or a variation on those), which emphasise process rather than output. These principles offer a framework for analysing, and subsequently managing multiple uses of water in situations of increasing competition.

One of the actors with a big stake in water resources management in IWRM are local governments. Availability of water resources for local services provision (such as water supply, sanitation and solid waste management) has often been taken for granted, or at most as a boundary condition. With increasing competition for scarce water resources and concerns around pollution it has become evident that performance of services delivery is greatly influenced by the water resources themselves. In addition, local government has key responsibilities in development planning and promotion, and local environmental management (Jouravlev, 2003; Mazibuko and Pegram, 2004). In these areas of their mandate, water is also a key issue, e.g. in terms of flood and drought management or the planning of green spaces.

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Actual involvement of local governments in water resources management remains limited (Smits and Butterworth, 2006). One of the key limiting factors is the lack of capacity. Processes of decentralisation often only result in devolution of responsibilities, but not of (financial) resources and capacity. A case study cited in Smits and Butterworth (2006) from Bolivia shows that, even where financial resources have been transferred to decentralised levels, human capacity in local government remains a limiting factor. This paper aims to explore and understand these capacity limitations, and potential avenues for improvement. It does so by first proposing two main ways in which local governments can start applying IWRM principles: “light” and “full” IWRM. Then, a proposal is developed to analyse local government capacity within a local governance context. The paper ends by providing an example from the Netherlands, to illustrate how the framework can be used.

The paper brings together findings from three previous studies: Smits *et al.* (2005), Smits and Butterworth (2006) and Warner *et al.* (2006). These studies mainly consisted of literature review, analysis of case studies and interviews with sector experts; for more information on the methodology see these individual papers.

Local governments’ capacity to apply IWRM principles: a framework for analysis

A twin-track approach to IWRM

Efforts to implement the principles of IWRM can be divided into two main streams of approaches (based on Moriarty *et al.*, 2004):

- Institutional and policy reforms to establish (catchment- or basin-level) water resources management authorities (WRMAs), often bringing together multiple stakeholders. These aim to address water resources management *across* sectors and actors. This is what Moriarty *et al.* (2004) call institution-based, or “full” IWRM
- This “full” approach has been subject to critique (e.g. Biswas, 2004). It is argued that in this way, IWRM ends up in institutional processes and remains far away from where it needs make an impact: the local level. Therefore, recent years have seen experiences in which IWRM principles are being applied *within* sectoral mandates of actors. This is what Moriarty *et al.* (2004) call a principle-based, or “light” approach to IWRM.

The two approaches are not mutually exclusive. In most situations it will make sense to follow a twin-track approach. They have complimentary strengths, which could help off-setting each one’s weaknesses. A light approach may not be able to address over-arching cross-sectoral water management issues. Besides, stakeholders who would lose out by applying IWRM principles may opt not to apply them, if there are no binding rules and regulations. Likewise, a policy and institutional framework without capacity to implement it at local level won’t make impacts.

This sub-division also provides two entry points for local governments to engage with IWRM:

- As mentioned, many countries are now seeing the establishment of WRMAs. Within these WRMAs decisions are taken about water allocation, pollution control, flood management, and other water-related issues of relevance for local authorities. Depending on the specific institutional arrangements, local governments can have their voices heard or even participate in this decision-making process (see Jouravlev, 2003, for examples from Latin America).
- Local governments can apply IWRM principles in their own areas of responsibility. Smits and Butterworth (2006) show how that can be done for a number of typical local government functions. Others have developed checklists for application of these principles to different sectors, e.g. EC (1998), Visscher *et al.* (1999) and Smits (2005). Also in practice, a range of

experiences exists where local governments apply IWRM principles in their work, though hardly ever covering the full spectrum of their mandates.

Understanding capacity

Despite these two attractive entry points, actual engagement of local government remains limited in either way. The three dimensions of capacity, (a) institutional capacity, b) organisational capacity, and c) human resources, as proposed by Visscher *et al.* (2006, forthcoming)), help in analysing some of the root causes of the limited engagement.

Institutional capacity: This refers to the enabling environment, including policies, institutional arrangements and inter-institutional relations, As the enabling environment is such a broad term, a number of key factors have been identified which determine to what extent local governments can engage with “full” IWRM (Smits and Butterworth, 2006).

- **Mandates:** the first issue is whether local governments have a mandate to engage in decision making processes within WRMAs. In some organisational models they do have decision-making power; in others they don't (Jouravlev, 2003).
- **Representation:** even if local governments have decision-making power in a WRMA, there are questions such as which local governments have a voice in this, how is it heard, and by which sections within local government they are represented. These questions are subject in a country like South Africa (Mazibuko and Pegram, 2004).
- **Accountability and enforcement:** in theory there should be accountability and enforcement between local governments and WRMAs. WRMAs for example should be able to enforce pollution control rules upon local governments. Likewise, local governments should be able to hold WRMAs accountable for a certain allocation of water for their needs. In reality, such relations between different government entities are difficult to enact.
- **Power and politics.** A wide range of research on water resources management, and especially on multi-stakeholder platforms has indicated that power relations are more often than not unequal between the different stakeholders (Edmunds and Wollenberg, 2002; Warner, 2006). This is also the case for local government in relation to WRMAs. The extent to which power and politics come into play may determine the previous points.

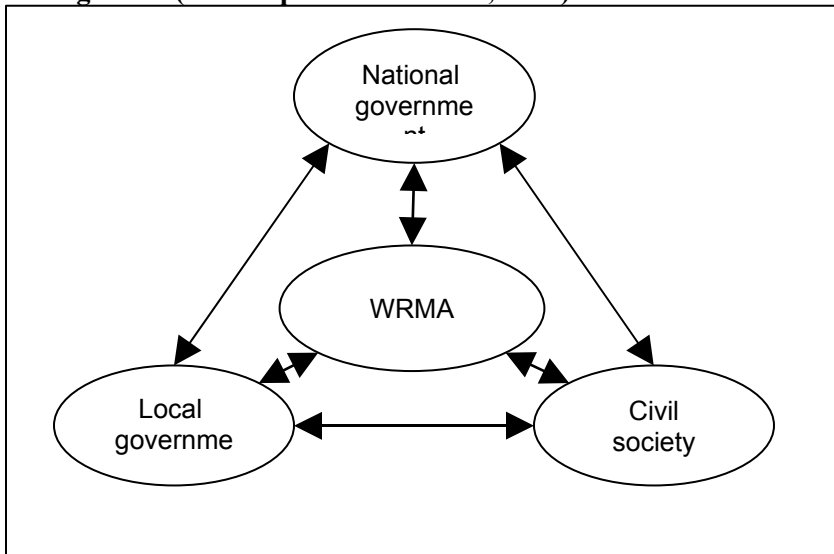
Organisational capacity: this refers to decision-making procedures and working arrangements within local governments. As it deals with the way how local government works internally, it determines mainly to what extent local governments are able to follow a light approach to IWRM. Key capacity limitations which have been identified include:

- **Fragmentation** of responsibilities for water-related services provision within local government, leading to a lack of appreciation for the direct linkages between the different services. Applying IWRM principles, even within one's mandate implies looking at how that mandate links to the water cycle, and hence to other uses. Fragmentation is not unique to local government; in fact local government may in theory be a place to break down fragmentation, as it the place where different development needs come together.
- **Participation:** Light IWRM does not mean that one can apply IWRM in isolation. Meaningful participation of citizens in decision making (in the sense of the Ladder of Participation (Bruns 2003)) remains a crucial issue here. Since it is usually the government who controls water, the degree of participation in practice means the degree to which power is shared. An unwillingness to devolve power, as well as cumbersome procedures for decision-making, often limit true participation.
- **Transparency:** or rather the lack thereof. Many decision making processes within local government lack transparency. This is often related to the previous point on how citizens can participate in or control decision-making process.

Human resources capacity: This refers to the staff profile in terms of numbers, skills, attitude and motivation found within a local government. They may not have sufficient staff to deal with water at all, let alone address issues of integration across government departments. Or, the job descriptions may not be geared towards thinking out of the box, and seeing linkages between water in different areas of local government. Cases abound about this issue; see for example Smits *et al.* (2005). Human resources capacity influences the extent to which local governments can follow either a full or a light approach to IWRM.

Based on the points above, a framework is developed for capacity analysis. First of all it shows that the position of local government must be understood in relation to other key stakeholders, especially WRMAs, civil society (which is understood to consist of Community-Based Organisations (CBOs), NGOs and the private sector) and national government. This is summarised in Figure 1.

Figure 1: The position of local government in water resources management (based upon Brannstrom, 2004)



The relations between these bodies can be analysed then in terms of key governance issues, such as mandates, participation and representation, accountability, enforcement, power and politics, and transparency. Likewise, relations within each body can be analysed using these criteria. Human resources are a key point of analysis in each sphere.

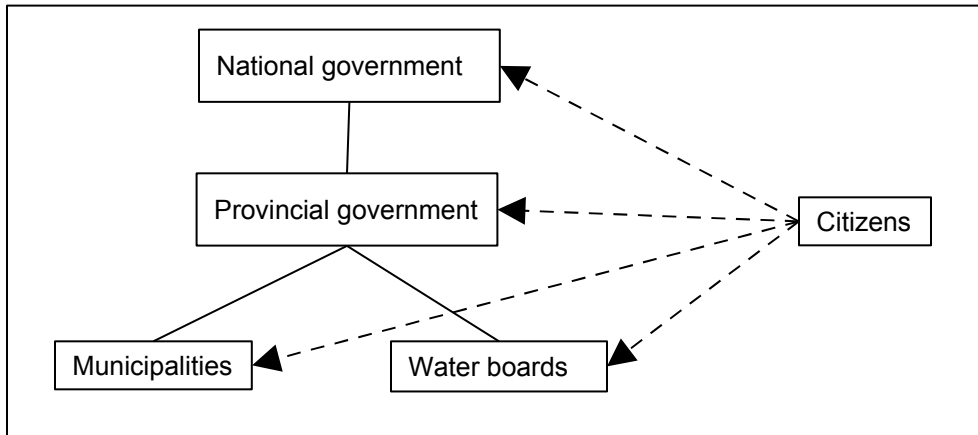
Lack of capacity is often understood as inadequate human resources to deal with IWRM issues. The framework above show that if local governments are to start playing an effective role in IWRM, capacity development must be understood more broadly, taking a local governance perspective. Each country or local authority, however, would require its own combination of the two approaches. Should efforts be put into improving institutional relationships? Or, rather into internal strengthening of local governments, by implementing local actions? Or is basic training needed for local government staff to begin with? An example of such an analysis is given for the case of the Netherlands.

Local governments and flood management in the Netherlands

Institutional framework

The starting point for the analysis is the institutional framework, as summarised in Figure 2. National government is mainly responsible for setting the overall policy framework, while operational responsibility is decentralised. The national water resources agency, *Rijkswaterstaat*, is directly responsible for management of the major rivers and lakes, but not for local water bodies.

Figure 2: Institutional framework for water management in the Netherlands (Based on Havekes, 2005)



The Netherlands know two types of local government: water boards and municipalities. Water boards are responsible for:

- maintenance of flood protection infrastructure (dunes, dikes);
- water quantity management (drainage and irrigation) of local water bodies;
- water quality management of surface waters;
- treatment of urban wastewater; and
- (Sometimes) maintenance of inland waterways and rural roads

The executive boards are democratically elected by citizens, according to a defined number of user categories. The users, in turn, pay taxes to cover for the operational costs of the water boards. Human resources available to water boards are relatively good, each water board being staffed by between 100-900 persons, many of them with a professional background in water management (Unie van Waterschappen, 2004).

Municipalities are responsible for all other policy areas at local level. The key municipal function of relevance in relation to water is around spatial planning, as changes in land use directly impact on water management. Clear alignment between municipal (and provincial) spatial planning instruments and local water management plans (to be developed by water boards) is required. Municipalities in general do not have dedicated sections for water management issues, as that falls under the water boards' mandate. Many municipalities do see water management as a cross-cutting in many of their areas of responsibility. Yet, many municipalities, especially the smaller ones, do not have staff with a professional background in water management. Provincial government oversees both municipalities and water boards, and needs to ensure that alignment between occurs.

Citizens participate indirectly in water management, through the election of water board members. In addition, there is a formalised procedure for participation in decision-making processes, called *inspraak* (lit. having a say). Currently, there are various experiments with more interactive forms of citizen involvement around water management.

In conclusion, the Dutch institutional framework can be characterized as one of a fair degree of decentralisation, yet with strong controls from central and provincial level, as well (in theory) by citizens themselves through various indirect and direct participation mechanisms. The question is whether it has the capacity to deal with the challenges of integrated water resources management.

New dimensions to old challenges in flood management

Living with flood risks has been part of Dutch history and culture. In fact the first water boards were already established in medieval times to deal with floods, and have been relatively successful in water management since then. Yet, recent history has brought some new dimensions to the old challenges of flood management. In 1993 and 1995, the rivers Rhine and Meuse nearly flooded. Even though the dikes held out and no major damage occurred, these events provided a wake-up call. Up to then, the main approach to river flood management had been one of continuous raising and strengthening dikes, at the expense of natural attenuation features such as meanders and flood plains. After the floods, more attention was given to creating space for the river so that flood waves could be spread out. This required not only changes in flood management itself, but also to changes in spatial planning procedures, and water quantity management. Whereas the principle of more space for rivers has been adopted in the policy for river flood management, municipalities have to contend with it locally.

A similar issue is at play around stormwater drainage. With urbanisation on the rise, excess rainfall can infiltrate less easily into the soil, causing local inundation risks. The old approach of installing more pumping capacity is changing into a paradigm of creating more space for retention and storage within cities and built-up areas. However, that goes at the expense of valuable land. The task of balancing the need to set aside land for water storage, and for housing and other developments, rests with local government: a true new dimension to an old challenge. This section analyses how local governments and other stakeholders are dealing with this.

River flood management

Creating more space for rivers, in practice translates into measures such as (re)-creating wider flood-plains, creating side channels and re-creating meanders in the river course. This means that land needs to be set aside to create this space; land which is very valuable to municipalities. The initial reactions of municipalities to the new policies can be categorised as follows:

- “*We agree and hope to benefit from the planning*”: cooperative win-win strategy
- “*We agree only under specific conditions*”: seeking for compensation and negotiating strategy.
- “*We understand the need, but we don’t want flood retention here*”: not in my backyard strategy,
- “*We do not agree since we are not responsible for the floods*”: confrontational strategy. The affected community does not feel responsible to provide space for the river for floods. They demand that the downstream flood-affected regions take action in the form of flood protection.

As municipalities and communities did not have a choice but to implement the policy, negotiations and searches for trade-offs were widespread. For example, municipalities could give

up land to create space for rivers, and be compensated by funding for measures outside the water domain e.g. bicycle lanes or other public facilities. Also, trade-offs were found in restoring nature and enhancing tourism in re-created flood plains. These newly developed flood plains proved to be rich in terms of their natural value, and offering good possibilities for recreation and tourism, contributing to the economic development in the area. Often compromises were found when measures pushed from national level were combined with local initiatives. Good examples of the compromises found include the Meuse corridor around Venlo (Warner et al., 2006), and the Overdiepse Polder (see Box 1). In both cases, the citizens and municipality developed their own plans and negotiated these with Rijkswaterstaat.

Box 1: Overdiep: Water in our backyards? We'll move the backyard

When the farmers in the Overdiepse Polder received the first word of 'Space for the Rivers' they took the initiative to redefine their polder as a retention area, and yet continue their farming activities. Two farmers from this community invented the idea to relocate their farm houses on artificial mounds that serve as refuge areas. In this way, then polder would see a relatively high inundation frequency, but with limited damage to their farming operations. In this way they would meet the national policy goal as well as safeguard the long-term future of their farms. The farmers established a residents' association to push forward their plan. "If something needs to be done" they told the river managers, "then quickly, and on our terms and conditions".

One of the problems was that their plan became part of the national spatial planning procedure, a national decision-making process that ends with deliberations in parliament. That was not what the farmers of the Overdiepse Polder had in mind. They did not like to be confronted with tedious procedures with an uncertain outcome. They wanted quick decision-making, implementation in the short term, and above all, no uncertainty. In the end, the Overdiepse Polder won the special status of 'front runner project' that put it outside the tedious national planning procedure.

Not in all cases creative solutions were found. Above all, the temptation to develop new housing projects in floodplains proved often to be too high, with large pressure by citizens and the local private sector alike. A similar reaction occurred around the new stormwater management policy.

Stormwater management

As in river flood management, the key principle in stormwater management has become one of creating space for water. The policy document Water Management in the 21st Century (WB21 after its name in Dutch) uses the triad principle of 'retention - storage – discharge' for stormwater management. In practice, this means making more space for stormwater retention and storage, rather than draining water as fast as possible. This should contribute to more effective control of excess rainfall, while at the same time contributing to groundwater levels stabilization and combating desiccation in summer.

This policy has brought about a tension between setting aside land for water, and using land for other purposes. Sound spatial planning is therefore at the heart of stormwater management. Again, municipalities need to deal with other demands for land. These other demands for economic and housing needs sometimes prove to be more important than inundation risks considerations. The land development and construction sector plays an important, often decisive, role in influencing decision-making on this issue. A similar role is played by speculative land buyers. A good example of the tensions is witnessed in the case of Gouda (Box 9).

Box 2: Gouda - controversy over the Westergouwe development

The old town of Gouda is located in one of the lowest lying areas of the Netherlands, five metres below sea level. There is significant seepage, complicating the already difficult drainage conditions and adding to inundation risks. All discussions around water have recently been overshadowed by controversy over new housing developments.

A municipal plan to develop a new residential area in Westergouwe, one of the lowest areas of the polder, would lead to very high flood risks during heavy rains. It provoked the outrage of prominent commentators like the Union of Water Boards' chairman, Sybe Schaap, who felt that the municipality is recklessly courting danger.

The Minister of Housing, Spatial Planning and Environment stepped in, pointing to questions on the compatibility of the project's sustainability and its robustness in light of flooding risks. In its reply to the Minister, the municipality explained why it is intent on going ahead. As a major commuter town it faces rapid population growth and needs to accommodate the high demands for housing. When in 2003 the (new) Minister showed a positive inclination towards the programme, a working group was created to see how a development could be planned in a responsible way. The *Werkgroep Wateropgave Westgouwe (3W)* consists of representatives from the Ministry, province, water board and municipality and organised three 'think tank' sessions. However, some people felt that local constructors are pushing too much for housing development, not paying sufficient attention to flooding risks, and that the municipality applies short term thinking to water risks that may become apparent only on the long terms scale. The issue remains high on the agenda.

Other cities have taken a more innovative approach towards establishing retention areas. They do this by capitalizing on the amenity value of water, which can make retention area acceptable. In The Hague, for example, the old inner city harbour area was opened up to create retention capacity. This was combined with restoring the impoverished harbour neighbourhood, creating better value for land use in that area and higher acceptability of the works within the community. Similarly, the cultural identity of many towns is clearly linked to water. Some of the Municipal Water Plans emphasise water as part of the city's history, proposing measures such as reinstating old watercourses, sluice-gates and forts. This helps make water measures more acceptable, stop the not-in-my-backyard thinking, and also promotes tourism and recreation.

Strengthening capacity for local water governance?

The response in the Netherlands to dealing with the new water challenges can be understood as an attempted combination of full and light IWRM:

- A conscious effort has been made to integrate spatial planning within water management through institutional reforms and changes in planning instruments. The alignment of spatial planning instruments with water management plans is a clear manifestation of that. It demanded a closer cooperation between municipalities and water boards. In river flood management, a more integrated policy has been developed. Yet, the implementation of the policy by *Rijkswaterstaat* has followed, arguably, a more top-down approach.
- A number of municipalities have taken up the challenge to apply IWRM principles in local actions to deal with the new policy directions. Such actions have brought home the realisation that further engagement with water boards and *Rijkswaterstaat* is needed, i.e. light IWRM needs to be combined with improved institutional arrangements.

As a result, changes have occurred in the three capacity dimensions for local government's engagement. Still gaps remain in each dimension. These can be summarised as follows:

Cooperative governance: Apart from the increased alignment of spatial planning and water management, no major institutional reforms took place. Changes can be seen in terms of the inter-institutional cooperation, especially between municipalities and water boards, though still mainly among operational staff. Cooperative governance is also happening in other ways, e.g. through joint planning between different neighbouring municipalities, even with municipalities across the border in Germany. Cooperation across different levels of governments is experiencing greater difficulty. Some municipalities have engaged in a constructive dialogue with *Rijkswaterstaat*, also because the latter is now taking a less top-down approach – learning to be less of a patron, more of a tough negotiator. However, that is not commonplace. Some municipalities still react with a not-in-my-backyard attitude, or outwit national government.

Integrating water within municipalities: As water boards are responsible for water management, municipalities do not have a dedicated section dealing with water; it is more of a cross-cutting issue. This has a risk that nobody has the capacity to take it forward, although in other cases it has helped thinking out of the box, e.g. where water is combined with urban regeneration or tourism development show this very clearly. These experiences have enhanced the acceptability of water interventions and strengthened integration between different sections within municipalities.

Citizen participation: The cases show changes in citizen participation and local governments' response to deal with that. In some cases municipalities seek to involve their constituency in the development of water plans, knowing they bring in valuable knowledge and experience. In other cases angry citizens reacted to the new policies, demanding their voices to be heard. Even when born out of reaction to government plans, citizens often soon took a constructive approach with creative ideas, as shown in the Overdiepe Polder case. However, local governments need to have the capacity to take citizens' views seriously. Where that has not been done, this has created crises of credibility of the involved municipalities.

Transparency on benefits and risks: interventions in water management require a long-term perspective. Municipal councillors are elected for a 4 year period. Hence they are often more interested in short-term gains than long term risk and cost considerations, as shown in the cases of housing development. In this, they are often pressurised by the local private sector. Dealing with the benefits and risks in a transparent way in decision-making remains a key capacity challenge at local government level.

Human resources: as mentioned, human resources for dealing with water in municipalities are generally low, partially due to the aforementioned fact that water is a cross-cutting issue in municipalities. Therefore, municipalities tend to rely upon consultants. Although the quality of the work by these consultants is generally good (some of the most inspiring water plans are developed by consultants) there are also concerns. In the first place, outsourcing knowledge may result in insufficient institutionalisation of water expertise within municipalities. Secondly, it may undermine the legitimacy of the municipality as the authority responsible for planning and engaging with communities. In addition to consultants, municipalities are increasingly aware of the local knowledge that citizens can bring into planning exercises, as witnessed in the increase around participation.

Conclusions

A number of (near-) disasters have triggered radical changes in water management, in terms of policy changes and, to a lesser extent, in institutional arrangements. Municipalities are developing local responses, sometimes through inspiring interactive processes with other government bodies and citizens. In other cases, less integrated approaches are taken, in which short term economic interests may prevail over long term water management considerations.

Strengthening capacity to enhance application of IWRM principles in the Netherlands will not lie in more institutional reforms or policy frameworks. The current framework enables decision-making at decentralised level, with oversight from national level and citizen participation. The biggest challenge will be to bring in the long term perspective into transparent decision-making processes. This can be done by further stimulating cooperative governance between municipalities and water boards, who typically bring in long-term views. A second way lies in more transparent interactive planning procedures, where citizens' perspectives are taken serious. Human resources development could focus on harnessing the knowledge and creativity of the private sector and consultants, but with a clearer view to institutionalising their knowledge in municipalities.

Bringing down IWRM to the local level requires a twin-track approach of policy and institutional reforms, and local actions. Local governments have an important stake in this. Their actual engagement with IWRM is limited, though. Lack of capacity is one of the key reasons for that – not only within local authorities, but in the sector at large.

Analysing existing capacities and gaps in capacity needs to start from looking at local government in relation to the broader governance. That helps understanding limitations in institutional capacity. In many instances the relation between local authorities and WRMAs is a key limiting factor. Secondly, the analysis needs to focus on internal decision making processes within local governments. Specific points of attention there include the transparency of these processes, often linked to citizen participation. Finally, staff profile in terms of numbers, skills, motivation and attitude is crucial. This not only refers to the local authorities themselves, but also to external persons that may be brought in to inform decision making.

Such an analysis has been done for the case of local government involvement in IWRM in the Netherlands. This reveals the need to further enhance cooperative governance between municipalities and water boards, as well as between different levels of government. Integration within municipalities is starting by combining water with other areas of responsibility, but can be enhanced. It also shows the need to build upon existing participatory planning processes and enhancing those. Finally, human resources development could benefit from better using and institutionalising knowledge from consultants.

Generic recommendations for local government engagement in IWRM can be formulated, by looking back at the analysis of overall capacity gaps.

<p>Institutional development</p>	<ul style="list-style-type: none"> · In places where overall policies and institutions for IWRM are lacking, these need to be developed, as per the country's context. These need to clearly define the mandate of local governments in these institutions, and how they are represented in decision-making. Local governments (or local government associations) can advocate and influence the policy formulation process over these. · Where institutions have been established, accountability relationships and enforcement mechanisms between water resources management authorities and local governments need to be developed and enacted. Official power hierarchies need to be established. In most cases defining this would be the responsibility of national government.
<p>Organisational development</p>	<ul style="list-style-type: none"> · The use of principle-based approaches to IWRM within local government should be promoted. Existing approaches can be further disseminated and adapted to the specific needs of a local government. Responsibility for that would lie with institutions which support local governments. · By following principle-based approaches, relationships and mechanisms for integration between different departments within local governments can be strengthened. These need to be supported by further decentralisation in general. Specific attention needs to be paid that officials are accountable to the local government and not to the line Ministries. · Local governments need to follow transparent participatory decision-making processes, involving citizens, local private sector and other relevant government entities. This is not something which comes out of itself, but can be supported by all different parties involved.
<p>Human resources development</p>	<ul style="list-style-type: none"> · Where skilled staff is lacking, local governments should look into sustainable ways of institutionalising knowledge from external sources, particularly citizens, NGOs and private sector. · When those sources of knowledge are not easily available, attention should be put on hiring and training staff in IWRM

It is proposed that such a framework can be used for developing context-specific recommendations for capacity development programmes in IWRM elsewhere.

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