Water in military stabilisation operations: comprehensive water intervention framework for conflict management and peacekeeping

R. P. Huizinga* and B. Enserink

Delft University of Technology – Faculty of Engineering, Policy and Management, Delft, The Netherlands

*Corresponding author. E-mail: r.ph.huizinga@gmail.com

Abstract

Water issues can be a root cause of political instability, but even in times of crisis, and especially in the aftermath of war, water management also requires and contributes towards co-operation. Within the complexity of military stabilisation operations, water management has been identified as a potentially suitable crisis and conflict management tool. Therefore, a comprehensive and appropriate approach to apply water throughout the entire process of transition from a conflict, post-conflict or unstable region towards stability, peace and prosperity is desirable. During the Dutch military stabilisation mission in the Afghan province of Uruzgan, water management was applied effectively by the Netherlands Army as an instrument to create stability and co-operation in the conflict and post-conflict period. Based on this experience, a Comprehensive Water Intervention Framework is presented in this paper. By integrating water management, military, development, diplomacy and co-operation approaches, this framework provides practical guidance for policymakers, mission planners and field officers. Its implementation follows after the initial military intervention and within the stabilisation operation, as a mechanism contributing to peacekeeping and development efforts. The framework can also be further improved, most notably by integrating land management and experiences gained from its implementation in civil–military exercises and from its actual application in stabilisation operations.

Keywords: Civil–military co-operation; Conflict management; Development; Diplomacy; Peacekeeping; Uruzgan; Water management

Introduction

The risk of water crisis is perceived as one of the most pressing global concerns of the coming 10 years, especially in the Middle East, North Africa and South Asia (WEF, 2016). In these regions,
scarcity is expected to be the most pressing water issue of all, and to have a significant influence on social, economic and political stability (or instability) (WEF, 2016). This corroborates findings by Sadoff et al. (2017) and the US Department of State, which claim that water insecurity will contribute directly or indirectly to fragility and instability within the next 10 years (ICA, 2012). In more detail: small and local armed conflicts over water resources are likely to occur; water-related state-on-state armed conflicts will be less likely; and water is more likely to be used as a weapon by terrorists or in hybrid warfare (ICA, 2012; WEF, 2016). Especially in countries facing water management challenges, rapid population growth, environmental degradation, weak political institutions, poverty, unequal distribution and limited financial and technical resources, there is a risk of destabilisation triggered by water problems (WEF, 2016). This is supported by findings from the World Bank, which state that ‘where economic growth is impaired by rainfall, episodes of droughts and floods have generated waves of migration and spikes in violence within countries’ (Sadoff et al., 2017: p. 3).

The root cause of every conflict lies in political, social and economic inequalities, uneven distribution, marginalisation and exclusion from resources (Ramsbotham et al., 2011).

At the transboundary level, rising international tensions over shared water resources are not uncommon. The construction of the Ethiopian Renaissance Dam in the Blue Nile, which could limit water usage in the downstream countries of Sudan and Egypt, is just one example (Sadoff et al., 2017). However, water issues alone are considered unlikely to cause military conflicts between nations (Wolf, 2007). In the 20th century, no large-scale wars were fought over water since they would have been neither strategically rational, hydrographically effective nor economically viable (Wolf, 2007). Instead, countries resolve their water issues through co-operation, agreements and technical solutions in the nexus water-food-trade-economic development. Moreover, due to its vital function in every society, shared water interests have proven to act as an impetus towards co-operation (Wolf, 2007; Sadoff et al., 2017). Once co-operative water-governance systems are established, they turn out to be very resilient and effective over time, even when conflicts are waged over non-water-related issues (Mostert, 2003). Interesting examples are the transboundary governance within the Nile basin, the activities of the Mekong Committee throughout the Vietnam War and the Indus River Commission, which has survived two major wars between India and Pakistan (Wolf, 2007).

At the national and subnational levels, water management is strongly interlinked with social, economic and environmental issues. Consequently, local water problems like scarcity of drinking water, poor access, poor infrastructure and local contamination can trigger food shortages, economic recession, environmental degradation, serious health issues and involuntary migration. When these are managed inappropriately, they can contribute towards local civil disruptions which may escalate into profound social instability, the failure of national governance, the collapse of the state and armed conflicts (ICA, 2012; WEF, 2016). According to Kelley et al. (2015), this is what happened in Syria as ‘there is evidence that the 2007–2010 drought contributed to the conflict’ there (p. 3241). They reason that the significant negative social and economic impacts caused by 3 years of severe drought, in combination with overexploitation of water resources, poor water-law enforcement and multiple economic reforms, functioned as the trigger for the social uprising and political unrest which instigated the Syrian civil war (Kelley et al., 2015). Moreover, Gleick & Heberger (2014) report that the number of violent conflicts over water at the subnational and local levels is growing. Most such incidents are local skirmishes over water and land access between herders, pastoralists and settled villagers. For example, a violent clash between herders along the border of Mali and Burkina Faso killed 30 people and resulted in the revocation of an earlier agreement to share water and pastureland (Gleick & Heberger, 2014).
As shared water interests have proven to act as a unifier, comprehensive water management at local and subnational levels provides an opportunity to create stability and to foster socioeconomic development in the complex and dynamic multi-actor environment of today’s violent conflicts and emerging crises. When investments in local water security are designed carefully, they can contribute towards reversing the vicious cycle and so promote stability (Sadoff et al., 2017). The Netherlands has both a long tradition in water management and a history of involvement in peacekeeping and stabilisation operations. It is no wonder, therefore, that water is a key focal point in the trading and development strategy of the Netherlands Ministry of Foreign Affairs in order to prevent conflicts and insecurity within unstable regions (Ministerie van Buitenlandse Zaken, 2018). Due to its vital function in every society and its crucial position in every reconstruction process, water is an essential part of any sustainable socioeconomic development strategy in the aftermath of war and armed conflict (Weinthal et al., 2011). Armed forces involved in peacekeeping can therefore expect to be confronted with water issues in any future operations (Joint Chiefs of Staff, 2013). To prevent conflicts and reconstruction duplications in the aftermath of war, a coherent, co-ordinated, participatory and conflict-sensitive approach to water management in the post-conflict period is needed (Weinthal et al., 2011). Building on the experience gained by the Netherlands during its stabilisation engagement in the Afghan province of Uruzgan, a comprehensive framework to utilise water as a crisis and conflict management tool is deemed desirable by the Netherlands Army Corps of Engineers in order to be prepared for the effective application of water management in future peace and stabilisation operations (Huizinga, 2015). Before now, however, no such comprehensive approach – one which applies water as a conflict-mitigation and development mechanism tailored to the complex dynamics of post-conflict transformation towards stability and peace – has existed. The research described in this paper contributes towards outlining such a practical new approach for policymakers, mission planners and field officers: the Comprehensive Water Intervention Framework (CWIF) (Huizinga, 2015).

Before presenting this new approach in the section ‘Comprehensive Water Intervention Framework’, we first elaborate our research methodology in the section below. The theoretical background, the framework’s foundation and its design criteria are then discussed and the final section provides a discussion and conclusions.

Method of development

The challenge of using water management as a tool for peacekeeping was explored through extensive literature reviews, by participation in diplomacy workshops and military exercises and by conducting a series of interviews with experts in peacekeeping operations and water governance. Through the case study ‘Water management in Uruzgan, Afghanistan’ (Huizinga, 2015), the application of water management by the Netherlands in a recent stabilisation operation in the Afghan province of Uruzgan was evaluated. This evaluation, too, was also rooted in desk research, literature review and interviews with experts. As a result, crucial recommendations for the application of water management in future stabilisation operations were discovered and formulated. It was from these recommendations that the design criteria for the new framework were determined (Huizinga, 2015). Subsequently, the framework itself was then developed, and after that discussed and validated by 12 experts working in defence, development, diplomacy and water management. The validation transcriptions can be consulted in Huizinga (2015). The new framework is intended to provide practical guidance for policymakers, mission planners and field officers during peacekeeping missions and stabilisation operations.
The new framework is inspired by the six implementation phases of the so-called ‘Integrated Approach’ (Ministerie van Buitenlandse Zaken et al., 2014), the Uruzgan Campaign Plan methodology (Bemmel et al., 2010), stabilisation operations strategies (Joint Chiefs of Staff, 2013; Rientjes, 2015) and a number of the principles of integrated water resources management (Jønch-Clausen, 2004; Savenije & Van der Zaag, 2008). To make it specifically applicable in stabilisation operations, the lessons learned from the case study are included. The conceptual design was validated by conducting semi-structured interviews with 12 experts in defence, development, diplomacy and water management, and consequently further improved by drawing on their tips and recommendations as well as by conducting a SWOT analysis (strengths, weaknesses, opportunities, threats).

Water and stabilisation operations

A better understanding of the context in which water management is applied as part of a military stabilisation operation necessitates an insight into the main parties involved in the operation and their different roles, objectives and perspectives. In the Netherlands, the main players are the Ministry of Foreign Affairs and the Ministry of Defence, whose joint civil–military strategy for stabilisation is based on the so-called ‘Integrated Approach’ (Ministerie van Buitenlandse Zaken et al., 2014). On the ground, given the insecure environment, this approach is put into practice mainly by the army. The Ministry of Foreign Affairs is the principal supplier of the necessary economic support and diplomatic expertise. For the utilisation of water as a stabilisation mechanism, the principles of integrated water resources management (IWRM) need to be incorporated into an essentially military operation. The Integrated Approach, stabilisation operation strategies and the IWRM principles are discussed in the sections ‘The integrated approach’, ‘Stabilisation operations’ and ‘Integrated water resources management’, respectively. Findings from Huizinga’s (2015) case study of the Dutch army’s involvement in the Afghan province of Uruzgan provide practical examples revealing how water issues had contributed to regional instability but then also served as an instrument to create stability. This aspect is elaborated upon in the section ‘Water management in Uruzgan, Afghanistan’. Derived from the sections ‘The integrated approach’, ‘Stabilisation operations’, ‘Integrated water resources management’ and ‘Water management in Uruzgan, Afghanistan’, the design objectives and criteria of the new Comprehensive Water Intervention Framework (CWIF) are introduced in the section ‘Design objectives and criteria’ followed by a section presenting the CWIF itself.

The integrated approach

To resolve the underlying problems within conflict, post-conflict, unstable or fragile regions, synchronisation of defence, development and diplomacy activities by all the crisis-management actors involved is considered a crucial success factor (Gabriëlse, 2007). To create the necessary synergy, the Netherlands ministries of Foreign Affairs (including Foreign Trade and Development Co-operation), Defence and Justice & Security have designed a generic and modular framework for the exploration, execution and evaluation of civil-military engagements: the so-called ‘Integrated Approach’ (Ministerie van Buitenlandse Zaken et al., 2014). This comprises six steps: orientation; analysis and assessment; integrated action possibilities; planning and preparation; implementation and execution; and evaluation. By following these steps one by one, the user is guided in creating synergy through the formulation of common objectives and goals. Ideally, the Integrated Approach stimulates co-ordination and
collaboration between the civilian and military crisis-management actors involved (Ministerie van Buitenlandse Zaken et al., 2014). As a result, duplications of effort and the use of scarce resources are avoided, information is shared and friction is reduced. Since the Integrated Approach guides Dutch engagements in conflict areas, it also serves as the backbone for the new CWIF.

**Stabilisation operations**

Stabilisation operations by third parties are a means of de-escalating wars and preventing conflict escalation. The aim of every stabilisation operation is to decrease the level and number of violent conflicts and to create conditions for the emergence of a self-supporting and self-reliant society (Huizinga, 2015). This is accomplished by reducing the incentives for armed insurgency through military operations to enforce and keep the peace and by consolidating stability through short-term acts of reconstruction, the initiation of sustainable long-term socioeconomic development activities and rebuilding of the host nation’s governmental and security organisations (Gabriëlse, 2007). Joint execution of the so-called ‘3D’ activities (defence, development and diplomacy) is a key requirement in transforming a conflict or post-conflict region into a self-reliant one (Gabriëlse, 2007). Ultimately, a successful stabilisation operation renders itself superfluous (Huizinga, 2015).

Most violent conflicts and crises have multidimensional causes and symptoms, which are associated with deep-rooted actor conflicts regarding values, issues and interests (Ramsbotham et al., 2011). Consequently, stabilisation operations are complex and dynamic (Gabriëlse, 2007). The complexity is caused by the fact that multiple stakeholders are operating in a complicated, problematic, unstable and often underdeveloped arena. Due to the simultaneous implementation of peace enforcement, peacekeeping, humanitarian operations and acts of reconstruction in an area where multiple stakeholders with different power positions are acting in their own interests, stabilisation operations are dynamic (Gabriëlse, 2007). Successful stabilisation operations therefore demand continuity, coherence and long-term engagement, with close civilian–military collaboration (Gabriëlse, 2007; Rientjes, 2015). The focus should be to create, maintain and enhance stability and socioeconomic objectives (Gabriëlse, 2007). Due to the limited resources available – materials, equipment, financial means, time and staff – prioritisation is also needed (Rientjes, 2015). This is done by creating so-called ‘security and development zones’ within the mission area (Gabriëlse, 2007; Rientjes, 2015). Usually, these are where the majority of the local population lives. Within these zones, the stabilisation force’s first priority is to establish stability and security. Since it is believed that long-term stability is best achieved through an effective governance system combined with socioeconomic growth, at the same time development and diplomacy activities are also conducted within these zones (Rientjes, 2015). Through tailored replication, creating new security and development zones in different locations and thus expanding the secure area step by step, the stability and socioeconomic objectives are eventually achieved across the entire mission area. Of course, as shown in the Uruzgan case, this ideal picture needs some nuancing: in practice there are always setbacks, insurgencies and failures; or, most detrimentally of all, an untimely withdrawal.

**Integrated water resources management**

The principles of IWRM should always inform the use of water as part of a peacekeeping strategy. IWRM is a cross-sectoral approach designed to promote the co-ordinated development and management of water, land and related resources (Lubella & Edelenbos, 2013). Through its implementation,
principles of social equity, environmental sustainability, economic efficiency, subsidiarity and sustainable water security can be achieved. By seeking to maximise economic and social welfare in an equitable manner without compromising the sustainability of ecosystems and the environment, IWRM considers the interests of the various water users in different sections of society (Jønch-Clausen, 2004; Savenije & Van der Zaag, 2008). In so doing, it integrates the natural and human water systems through its four dimensions (Savenije & Van der Zaag, 2008):

1. **Water resources**: These encompass the entire hydrological cycle, including water quantity and quality.
2. **Water users**: These include all human economic, industrial and social interests, including those concerned with the environmental aspects of the resource.
3. **Temporal scale**: This covers temporal variation in water availability and demand, including the physical structures for water management and control.
4. **Spatial scale**: This covers spatial water distribution (upstream and downstream) and the various spatial levels at which water is managed, which as well as individual usage include institutional arrangements such as water boards, local, provincial and national governments and international transboundary commissions.

IWRM is a generic approach which has to be tailored to the local geographical, social, economic and political situation (Jønch-Clausen, 2004; Savenije & Van der Zaag, 2008). By integrating water planning into national economic governance, IWRM aspires to create a resilient water-management system that, ideally, responds effectively to the different needs and challenges in this domain. Appropriate legal, institutional and financial arrangements are therefore important preconditions for its success (Jønch-Clausen, 2004; Savenije & Van der Zaag, 2008). In post-conflict situations, however, the latter can be problematic due to the insecure environment, low economic output and a variety of actor interests.

**Water management in Uruzgan, Afghanistan**

Historically, most insurgencies occur in agrarian societies where disputes over land and water rights are among the most important drivers of conflict (Joint Chiefs of Staff, 2013). All over Afghanistan, floods and droughts have contributed significantly towards water-related conflicts in recent decades (Elp, 2012). In Uruzgan, water scarcity has been one of the root causes of small-scale armed skirmishes (LTO, 2009; Huizinga, 2015). Since the beginning of the Afghan War in 2001, the Taliban have capitalised on local poverty and fragmented tribal structures to gain support for their armed insurgency (LTO, 2010).

Between 2006 and 2010, the Netherlands was engaged in Uruzgan as lead nation within NATO’s International Security Assistance Force (ISAF) mission. The Dutch government’s political motivation for this contribution was based on multiple arguments: solidarity within NATO after the 9/11 attacks; maintaining the nation’s highly valued relationship with the United States; the general threat posed by terrorism; and a moral motivation to kick-start the democratisation of Afghanistan through stabilisation and reconstruction after 30 years of war, in combination with the violations of human rights and oppression of women by the Taliban regime (Rientjes, 2015). These motivations were operationalised in three mission objectives to be pursued using the ‘3D’ approach (Gabriëlse, 2007): providing safety and
stability (defence); improving governance and implementing the rule of law (diplomacy); and creating the conditions for economic development (development).

Uruzgan has a predominantly dry climate with substantial fluctuations in average seasonal rainfall and in monthly river discharges. The irregular pattern of water inflow is accompanied by an absence of appropriate water storage facilities, a partially functional water distribution system, insufficient flood protection infrastructure, weak water governance and a lack of institutional authority (Huizinga, 2015). Due to Uruzgan’s arid climate and agriculture-based economy, water is a vital resource. Disputes over the available water resources and their inter-relationship with agriculture and the supply of drinking water to villages was accompanied by local armed skirmishes which decreased the overall level of security in the region (Huizinga, 2015). As one example, the armed insurgency in Uruzgan’s Chora Valley in June 2007 had its origins in access to water resources. Skirmishes occurred between ethnic settlements, tribal groups, communities, villages, farmers and other water users (Huizinga, 2015). Moreover, the cultivation of opium poppies (*Papaver somniferum*) – the main source of income for the majority of Uruzgan’s farmers – was linked with powerful actors (Donkersloot *et al.*, 2010) and so the water needs of those plants contributed to the instability (Huizinga, 2015). The absence of other economic prospects and limited access to safe water resources indirectly helped to create a breeding ground for insurgency. This made water management an important focal point for the stabilisation operation within Uruzgan during the Dutch engagement there between 2006 and 2010 (Huizinga, 2015).

Water management, engineering reconstruction and development activities were performed from the very start of the Uruzgan mission, even as the Dutch forces were creating and expanding the so-called security and development zones (LTO, 2010). Since water is an essential resource, and because the local water management infrastructures and governance systems were poorly developed, water was contested and was a source of conflict. This fact opened the conversation with local leaders about the problems, and about possible solutions to which the stabilisation force and non-governmental organisations (NGOs) might contribute. After listening to details of the local water challenges, reconstruction and development activities were initiated. Delivering on the commitments made and providing communities with tangible improvements contributed towards building trust between the local population and the stabilisation force, for example, through the construction of irrigation systems and wells (Huizinga, 2015). Improved irrigation schemes and greater crop diversity improved farmers’ crop yields, in turn increasing the quantity and quality of wheat and maize available in the local market (LTO, 2012).

Improving infrastructure through construction and reconstruction projects is the most visible aspect of IRWM, but for sustainable development a well-functioning water governance system is even more important (Lubella & Edelenbos, 2013). Once basic security had been achieved through the presence of the stabilisation forces and a basic level of trust created, water ‘shuras’ (meetings) were organised with the aim of re-establishing the authority of the ‘mirabs’ (local water managers) and thereby restoring the local governance structure. By providing a platform where water issues could be resolved peacefully by the local stakeholders themselves, these revived institutions contributed towards a decline in inter-tribal conflict and violence, since they prevented armed skirmishes over water allocation by means of negotiations. In addition, they helped re-establish the traditional water governance system (Huizinga, 2015).

From the stabilisation perspective, water projects were key in reducing the incentives for insurgency. In line with the 3D approach, the stabilisation force aimed to increase levels of income and to promote actor self-reliance through socioeconomic development, along with improved governance practices, all the while also increasing the level of security and the number of government-controlled areas. Compared
with other development activities, like building schools and health centres, the water projects were those most appreciated and desired by the local population in Uruzgan (LTO, 2012). Since water-distribution infrastructure and management were their main focus, these reconstruction projects and negotiation-promoting activities contributed towards higher crop yields, employment and incomes, as well as greater local co-operation on the allocation of irrigation water (LTO, 2012). Water thus acted as a stabilisation instrument in the security and development zones, since local water conflicts were mitigated and prevented during the Dutch engagement (Huizinga, 2015).

Outside the security and development zones, water proved to be an effective enabler in establishing relationships with the local population (Huizinga, 2015). However, all the Dutch water-development efforts were significantly affected by the cultivation of poppies. They are the basic raw material for the production of opium and functioned as an important source of income for insurgent forces, criminal organisations and the local population alike. For decades, Afghanistan has been the world’s number-one producing country of poppies. In 2009, almost two-thirds of Uruzgan’s population was dependent on the production of and trade in poppies for their income. Moreover, in south Afghanistan, which includes Uruzgan, 50% of the income of the insurgent forces was related to the manufacture and trafficking of drugs (Donkersloot et al., 2010). Eradication of the poppy crop was considered an ineffective strategy by the Dutch, since it would only encourage local farmers to join the insurgency (Donkersloot et al., 2010). Instead, therefore, saffron was introduced as a replacement crop in the security and development zones of Tirin Kot, Chora and Deh Rawud (LTO, 2009). When cultivated on a large scale, saffron can actually generate higher profit margins than poppies. In combination with the improvements to water management, this crop substitution programme came to be valued as an important instrument for creating stability in the long term (Huizinga, 2015). Accompanying the introduction of saffron and the decrease in poppy production, the power balance between local tribes shifted and a new economic model was formed. This represented a fundamental societal change, which evolved gradually within the security and development zones during the Dutch engagement (Huizinga, 2015). At the same time, however, outside those areas, insurgent forces and criminal organisations forced local farmers to maintain poppy cultivation through physical or financial oppression (Huizinga, 2015). This seriously limited the overall success of the new policies. Moreover, the Dutch stabilisation efforts ended after 4 years, in 2010. For political reasons triggered by an upcoming general election in the Netherlands, all Dutch civil and military personal were withdrawn from Uruzgan. The new coalition of multiple NATO countries in the province continued to promote saffron cultivation, but also began pursuing active eradication of the poppy crop. However, the long-term engagement required to make the transition from poppy to saffron in support of a gradual shift in the balance of power and a new economic model did not emerge, so the policy of transition initiated by the Dutch eventually failed (Huizinga, 2015).

To summarise, the 4 years of Dutch engagement in Uruzgan brought improvements to its water and governance system. In the development zones, better water management helped to mitigate and prevent conflicts. Unfortunately, though, the potential thus created was not fully utilised because the preconditions for a successful stabilisation operation were never met in full. Specifically, the Netherlands and its coalition partners did not provide the required long-term engagement. As a result, even today, stability, peace and prosperity have not yet come to Uruzgan. As argued above, long-term stability can only be achieved by delivering a functioning and effective governance system along with socioeconomic growth.

The following sections introduce the new CWIF developed to create the necessary conditions to meet these requirements. First, its design objectives and criteria are elaborated, then, the new framework itself is presented.
Design objectives and criteria

A policy framework transforms a future vision into specific actions with the aim of making that vision reality (Johnson & Cook, 2013). Specifically, it is a list of processes and procedures that allow an intervention to happen. In general, any framework should be (Johnson & Cook, 2013):

• holistic, by integrating planning, decision-making and implementation;
• flexible, since requirements change over time;
• robust, by identifying mitigation measures to make it failure-proof;
• adaptive, as the framework should be applicable in different conflict-prone areas around the globe;
• well-structured and clear, to ensure good performance;
• multidisciplinary, to allow innovation and ensure its usability.

The new framework should provide practical guidance for policymakers, mission planners and field officers in utilising water management as a crisis and conflict-management instrument throughout the process of transition associated with stabilisation operations. It should therefore include the following elements (Huizinga, 2015):

• A backbone, including a specific platform for co-operation between national and international actors who remain involved throughout the entire transition process. This backbone can be established using the Integrated Approach described earlier.
• A good fit with stabilisation-operation strategies. This requires use of the 3D approach.
• Principles to guarantee the framework’s applicability in any geographical environment. In this respect, the IWRM principles are particularly valuable.
• Specific short-, medium- and long-term strategies, based on, for example, the key lessons learned from the Uruzgan case study (Huizinga, 2015):
  
  o There need to be short-term supportive efforts for stability and development, in the form of essential development projects. Water management projects thereby contribute towards security, since the underlying causes of armed insurgency – political, social and economic dissatisfaction and inequalities – are decreased and independence increased. Moreover, the zones controlled by the stabilisation force are expanded. By repeating this process in areas not yet under its control, the stabilisation force can extend its sphere of influence and control step by step.
  
  o There need to be medium-term shaping conditions for conflict resolution, delivered by organising and facilitating water meetings between local users at which issues such as quantity and quality are discussed. In Uruzgan, this approach proved successful in de-escalating water conflicts, stimulating mutual understanding and negotiating solutions. By implementing solutions in co-operation with the local population, trust is gained and understanding of the local problems and challenges associated with water usage and non-water issues is improved.
  
  o Long-term objectives also need to be met through co-operation to enhance equitable water allocation and good governance. The stabilisation operation is a window of opportunity to rebuild or improve resilient, locally oriented, adaptive and co-operative water governance institutions capable of coping with future uncertainties and impacts. By creating common understanding and goals regarding local water issues, local ownership is generated.
The comprehensive water intervention framework

Since the Integrated Approach (Ministerie van Buitenlandse Zaken et al., 2014) is the guiding framework for the Dutch armed forces and their strategic allies in stabilisation operations, the desired new comprehensive framework should align with it. The six steps of the Integrated Approach thus also form its backbone. To achieve a structured implementation, that approach is divided into three stages: exploration, execution and evaluation.

The exploration stage consists of steps 1, 2 and 3 (orientation, analysis and assessment, integrated action possibilities). At the end of this first stage, which is undertaken by the intervening parties, a political decision has to be made as to whether or not to engage. If this results in a ‘go’, implementation of the framework continues with the execution stage. If there is no political mandate – a ‘no go’ – there is no water-related intervention and the subsequent steps in the framework become irrelevant. Assuming that there is a ‘go’, the execution stage begins with step 4 (planning and preparation) and then proceeds to step 5 (implementation and execution). The final stage consists of step 6 (evaluation). Steps 4, 5 and 6 are undertaken with local stakeholder involvement, and preferably include a transfer of power at an appropriate moment.

To create a comprehensive framework for water-related interventions and to make the Integrated Approach suitable for the utilisation of water as a crisis and conflict-management tool, specific actions related to the principles of integrated water management have to be undertaken within each of the six steps. For clarity, the new framework is divided into two parts. Steps 1, 2 and 3 (undertaken by the stabilisation force and its civil partners only) are shown in Figure 1. Steps 4, 5 and 6 (in which local stakeholders and the civil-military stabilisation force have to co-operate) are found in Figure 2. Each step is introduced with a leading question. To provide its users with guidance in answering these in an appropriate manner, specific actions are listed for each step. The degree of coherence and inter-relationship between the six steps is strong. Consequently, the new framework should be applied more or less chronologically, from top to bottom (from step 1 to step 6).

**Step 1 – Orientation**: To prevent conflicts, to create coherence and to build co-operation, the orientation step begins with the sharing of information within the Civil–Military Water Working Group (CMWWG) in order to identify potential water crises and conflicts in the expected mission area. The CMWWG includes both national experts from the mission area itself and international water, military, development and diplomacy experts. Based on the information it gathers, a report is compiled assessing whether water is an issue or could become the root cause of a crisis or conflict or a catalyst of instability. If that is indeed the case, the process proceeds to step 2. If water is not an issue in the expected mission area, and seems unlikely to become one, application of the framework ends.

**Step 2 – Analysis and assessment**: Step 2 includes joint fact-finding with the CMWWG to gain a situational understanding of the expected mission area. Water professionals start by analysing the local water system based upon the four IWRM dimensions: water resources and the hydrological system at basin level; water users and water needs at the local level; the temporal scale; and the spatial scale. Soil conditions and the area’s geographical properties should be included in this assessment. Subsequently, and in collaboration with the military, development and diplomacy experts, the fact-finding exercise explores how water issues are related to the crisis or conflict in the region and identifies the reasons for and effects of past decision-making. Based on these analyses, an assessment is produced stating how water can serve as an enabling tool for crisis and conflict management in the expected mission area by mapping, for multiple scenarios, the best ways to utilise it in achieving the strategic aims of
stability and development, conflict resolution and co-operation. Once these water-related enabling strategies have been formulated, they are incorporated into the goals and objectives drawn up in step 3.

**Step 3 – Integrated action possibilities:** Step 3 makes the mission objectives explicit and concludes with a political decision on whether and how to contribute towards the stabilisation operation. This is decided based on the Campaign Plan, which details: the requesting organisation; the reasons for participation; the management or command structure; the goals of the mission; the short- and long-term objectives, including engagement planning; joint water objectives and enabling water strategies; risks and mitigation measures; responsibilities; which resources will be needed and deployed; the partners in the CMWWG, including their common and conflicting interests; and opportunities for synchronisation. If the political decision results in a ‘go’, implementation of the framework continues with step 4.

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**Fig. 1.** Steps 1, 2 and 3 of the Comprehensive Water Intervention Framework and their actions.

<table>
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<th>Comprehensive Water Intervention Framework</th>
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<td><strong>EXPLORATION STAGE</strong></td>
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<td><strong>STEP 1 - ORIENTATION</strong></td>
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<tr>
<td>Is water an issue?</td>
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<td>Or can it become an issue?</td>
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<td>YES</td>
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<td>NO</td>
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<td>STOP</td>
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<td><strong>ACTIONS</strong></td>
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<td>- Sharing of information within the Civil-Military Water Working Group (CMWWG).</td>
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<td>- Identifying potential water crises and conflicts related to national and international strategic objectives: security, development cooperation and trade.</td>
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<td>- Publication of assessment.</td>
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<td><strong>STEP 2 – ANALYSIS &amp; ASSESSMENT</strong></td>
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<td>How can water serve as an enabler?</td>
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<td><strong>ACTIONS</strong></td>
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<tr>
<td>- Joint fact-finding to gain situational understanding of the conflict, actors, political, social and economic issues, host-nation development strategies, strengths and tactics of opponents.</td>
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<td>- Assessment of the water system through the four IWM dimensions: water resources and the hydrological system, water users and water needs, temporal scale and spatial scale.</td>
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<td>- Analysis: water issues and their relations with the crisis / conflict.</td>
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<td>- Identification of causes and effects of past decision-making.</td>
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<td>- Mapping of the scenarios for how water can serve as an enabler by means of the strategies water for stability and development, water for conflict resolution and water for cooperation.</td>
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<td><strong>STEP 3 – INTEGRATED ACTION POSSIBILITIES</strong></td>
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<td>What are the goals and objectives of the mission?</td>
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<td><strong>ACTIONS</strong></td>
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<td>- Publication of the Campaign Plan for decision-making, which includes:</td>
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<td>- the requesting organisation, the reasons for participation, the management or command structure, risks and mitigation measures, responsibilities and resources needed and deployed, use of force;</td>
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<td>- the mission goals;</td>
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<td>- the short- and long-term mission objectives, including the engagement plan;</td>
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<td>- the joint water objectives and operationalised enabling water strategies; and</td>
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<td>- the partners in the CMWWG, with their common and conflicting interests, responsibilities and opportunities for synchronisation.</td>
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(planning and preparation). In the case of a ‘no go’, use of the framework ends since there is no political mandate.

**Step 4 – Planning and preparation:** In this step, preparation of the mission starts with the assessment of the local water system in more detail based on the four IWRM dimensions (Savenije & Van der Zaag, 2008). Next, local stakeholders are consulted. Based on their information, the identified local needs, the existing local water policies and the regional and national development strategies of the host nation, the water development plan is formulated. Ideally, all societal and economic functions of water are represented in this plan. Thus, if relevant, its utilisation for food, drinking, nature, health, flood protection, shipping, industry, energy, recreation and tourism should all be included.

Subsequently, and based on the set of mission goals and objectives, the enabling strategy for water’s contribution within the stabilisation operation towards stability, development, conflict resolution and co-operation in the short, medium and long terms has to be determined. Based on this strategy and the water development plan, coherent and tailored long-, medium- and short-term projects are defined and the water governance and funding system is designed in collaboration with host-nation representatives and local experts. To guarantee a comprehensive approach, the long-term objectives guide the planning of the short- and medium-term projects. Once the projects have been identified, their objectives, key performance indicators, criteria for success and the monitoring and evaluation plan need to be formulated by the CMWWG. Since the time and engagement horizons of the CMWWG actors will differ, clear objectives, synchronisation agreements and demarcated responsibilities are essential. Among other things, these need to include the project distribution, the resources needed, responsibilities, accountability, the exit strategy, expectations and joint ownership of the long-term goals. Such clear agreements and demarcated responsibilities are essential because military crisis management pursues short-term objectives, whereas development instruments are oriented towards the long term (Goor & Major, 2012). Due to the wide range of possible futures, their uncertainties and the constant changing dynamics of the mission area, an adaptive management approach is needed (Bemmel & Eikelboom, 2014). By formulating the strategic future vision and the desired short-, medium- and long-term objectives, the required adaptability is created (Goor & Major, 2012). Consequently, each stakeholder has the freedom to determine how best to achieve its own set of committed short-term objectives during its engagement.

**Step 5 – Implementation and execution:** The aim of every stabilisation operation by third parties is to de-escalate armed conflicts, decrease the level and number of violent confrontations and shape the conditions for a self-supporting, independent and peaceful society. Step 5 starts as the armed intervention stage ends and the stabilisation stage begins, and is performed in the mission area itself. It includes the actual implementation of the projects envisioned in step 4. Whether short-, medium- or long-term, these should be tailored to local needs and support the conflict transition management instrument, as follows:

- **Short-term:** supporting stability and development efforts. Military and civil-military quick-impact projects (QIPs) to meet the immediate basic water needs of the local population after the initial military strike, entry or intervention.
- **Medium-term:** shaping conditions for conflict resolution. The QIPs are connected and transformed into water development projects and policies with a longer-term orientation in order to achieve stability through actor co-operation, good governance, a sound funding system and water security.
- **Long-term:** objectives achieved through co-operation. Socioeconomic development with a long-term orientation, including sustainable and equal water usage through scaled enlargement of technical projects, management policies and water laws, builds a self-supporting and peaceful region.
Fig. 2. Steps 4, 5 and 6 of the Comprehensive Water Intervention Framework and their actions.

Only the local population and the host-nation authorities can ensure the necessary transition from a conflict, post-conflict or unstable situation towards stability and peace. Because of their local knowledge, they...
play an important role in connecting institutions and local communities with different ethnic backgrounds in such a way that water-related conflicts are reduced, mitigated or prevented. Since the local population and the host-nation government are the ultimate problem-solving actors, local problem ownership, problem-solving responsibility, entrepreneurship and good governance are the pillars of the foreign army’s exit strategy. From the beginning of the water-related intervention, therefore, local ownership needs to be promoted and responsibilities need to be transferred to the local population and to host-nation government organisations. Without local ownership, no water project will encourage communities to become self-supporting. This point also underlines the importance of including national experts from the mission area itself in the CMWWG from the start. For a sustainable takeover by another actor, every activity should have an exit strategy from the outset. When and to whom the activity is ultimately handed over will be determined according to the level of expertise and commitment of the intended candidate(s), preferably a local actor or organisation. For this reason, mentoring that actor from the start is essential. In addition, all activities need to be planned, designed and performed jointly with the local population and be based on their knowledge, cultural principles and methods. This also includes the allocation of funds by the host nation itself. As a result, local ownership – the basis of a self-supporting, independent and peaceful society – is fostered. That is a highly valued established practice in development co-operation and water resources management (Huizinga, 2015). It also prevents the new system collapsing due to lack of ownership and/or capabilities after the withdrawal of the donors and/or peacekeeping forces.

Step 6 – Evaluation: Key performance indicators are used to evaluate the short- and long-term mission goals and objectives. When necessary or appropriate, a follow-up plan can be formulated. In this case, implementation begins with step 2 since the participating actors have already reached consensus as to how water can serve as an enabling tool for crisis and conflict management in the region. In case of a stop or follow-up, the lessons learned are formulated and shared within the CMWWG.

Discussion and conclusions

As emphasised in this paper, water issues are a potential root cause of instability. A conflict-sensitive approach to water management based on IWRM principles is a precondition for effective peacekeeping and development. Implemented in this way, water-related actions can be a means to create stability and foster co-operation between conflicting actors in areas subject to stabilisation operations.

In this article, the application of water management as a crisis and conflict management tool is operationalised. The Comprehensive Water Intervention Framework (CWIF) provides practical guidance as well as a coherent conflict-sensitive approach for the process of transition from a conflict, post-conflict or unstable region to one of security, stability and peace. Acting as a transition management instrument, stability and development are supported in the short term by means of the ‘water for stability and development’ strategy, under which essential development activities are initiated. Connecting these short-term reconstruction projects, typical of the initial period of a military intervention and peacekeeping, with the long-term development objectives of IWRM is achieved through the ‘water for conflict resolution’ strategy. In the long-term, the water-management projects contribute towards building a self-supporting and peaceful region. This long-term strategy is framed as ‘water for co-operation’. The short-, medium- and long-term strategies are all developed and implemented by following the six steps in the CWIF, which lead us through its exploration, execution and evaluation stages. Because the actions in each step describe what to do but do not prescribe how to do it, the framework is adaptive in character since each action can
be tailored to the local context. As a result, policymakers, mission planners and field officers can use it to apply water management effectively in any future peacekeeping and stabilisation operation.

Due to the complexity and dynamics inherent in stabilisation operations, the framework presented here is aligned with the sequence of the Dutch Integrated Approach. This is of course a vast simplification of reality and, in practice, implementation will never be either as easy or as linear as presented here. The framework therefore should be considered only as guidance for the organisations managing peacekeeping and stabilisation operations, to enhance coherence in the application of water management as a potential crisis and conflict management tool. The IWRM principles applied in the intervention guarantee the alignment of short-, medium- and long-term objectives and support local water governance in the mission area.

However, there will doubtless be actors or insurgents in the mission area not interested in pursuing water independence and a self-supporting society. Since any application in the field will have only limited financial resources and limited forces to safeguard its security, it is sure to be vulnerable to the actions of opponents and insurgents because total control over water resources is impossible. Moreover, in military peacekeeping security priorities always come first and development activities second.

One risk in the use of water management for stabilisation purposes lies in its vulnerability to acts of insurgency, such as the destruction of vital distribution infrastructures for agriculture or the contamination of fresh water supplies for human populations. Such attacks can be very effective, since they damage trust on the part of local water users – the local population – and so can increase their motivation to support the insurgency. This example also illustrates the fact that success depends on a wide variety of security, social, economic and political factors and issues. Equitable actor treatment and stimulating water co-operation between all users can be difficult, too, since they include the insurgency actors and the military mandate often precludes negotiation with them. Finally, participation in a project by local actors can make them targets for the insurgent forces, and that can also be a barrier to involvement.

Water and land management are closely interrelated. The cultivation of opium poppies in Uruzgan, as described in the case study above, provides a clear example of that, one illustrating the fact that, ideally, IWRM and land management should be integrated. Such integration is thus advised for the new framework. Moreover, it should be reiterated that the framework is a reactive tool and not one designed to prevent conflict. For that, the development of a proactive framework with a focus on conflict prevention would be an asset and thus is recommended.

For successful implementation of the framework, moreover, thorough training of its prospective civil and military users is needed. Selecting the right local and international partners, with substantial experience and resources, is also crucial. Ideally, users should learn its application through civil-military training exercises which are also used to improve the approach. Its incorporation into current government policy and military doctrines is also important. Most crucial for actual implementation, is the mobilisation of long-term political and military engagement and long-term financial commitment. Without fulfilment of these conditions, successful implementation of the framework will be impossible.

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