



# International strategy for Finland's Water Sector

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## Background and objectives

### Background: Why an international strategy for Finland's water sector?

The changes taking place within both Finnish society and the global community have highlighted issues relating to water across an increasingly broad spectrum. Water cannot simply be thought of as its own separate sector, as **water is linked with several other sectors and areas in cross-cutting ways**. A broader environmental and social context is inextricably linked in different ways to water and water cycles. Environmental, social, political and economic changes have an impact on the use and availability of water, and the use of water correspondingly has various feedback loops and impacts on these factors. Water in its many forms also takes on a diverse cultural and religious significance, and for this reason, water should not be considered merely in physical or chemical quantitative terms.

**The key role played by water in development forms the foundation of this strategy.** Water, as a natural resource and factor maintaining the functioning of ecosystems, and as drinking water, is of critical importance in promoting ecologically sustainable development. Water and its many uses are closely linked to various global changes, such as food security, health, energy production and environmental sustainability. In this way, water also plays a **critical, overarching role in reducing poverty**. Several global drivers of change, such as climate change, population growth and urbanisation, industrialisa-

tion, changes in consumption and the need to guarantee food and energy security, impact in various ways on water, its use and availability. At the same time, water is an important cross-cutting factor in these changes and in planning for them. **Water is also an important health factor.** Effective access to water supply, well-managed sanitation and an





adequate level of hygiene greatly reduce mortality resulting from water-borne diseases and malnutrition, especially in children.

**The linkages between water and climate change are also complex.** The impacts of climate change, such as droughts, floods, and extreme weather phenomena, affect society's various functions most significantly through the consequent changes in the water cycle. At the same time, the changes taking place in the hydrological cycle due to land use changes in drainage basins also have their own impact on climate. Furthermore, several of the uncertainties relating to the processes involved in climate change are closely linked to water. All in all, climate change will have significant, and mainly negative, impacts on water systems throughout the world. Adapting to climate change is primarily a question of understanding the water cycle and the changes taking place within it. According to forecasts, the impacts of climate change and adaptation challenges will be greatest in developing countries and in arctic regions.

**Water plays a central role in security.** Population growth and climate change are expected to increase conflicts relating to the availability of water and other natural resources. In addition to challenging transboundary water issues, tensions and conflicts relating to water will also be likely within states. The scarcity of water is also closely linked to migration and refugee flows. Water plays a vital role in ensuring food security in regions dependent on irrigation systems as well as in those dependent on rainfall. In addition to food production, the availability of water has an increasingly important role in ensuring energy supply. A staggering 96% of current renewable energy production is closely connected to water either through hydroelectric power or the production of bioenergy. The goal of achieving as much self-sufficiency as possible in food and energy produc-

tion means increasing pressures on the use of water and land use. Food and energy are also competing for the same, limited resources to an ever increasing extent. The impacts of climate change will also increase insecurity relating to water. Floods, for example, are already among the world's most destructive forms of natural disasters in terms of both fatalities and economic losses.

Issues relating to water are increasingly prominent in **international processes linked to security, the environment and development**, which are described in more detail in Appendix 2. Common to all these processes is that their approaches emphasise not only economic efficiency, but also an integrated approach, a needs- and problem-based orientation, and the cross-cutting nature of water. At the same time, they focus particular attention on social and political questions linked to water, and the participation of various actors in planning and decision-making relating to water issues.

## **Objective: to meet our partners' needs**

Finland has considerable expertise in several sectors relating to water and its management, such as solutions based on advanced technical skills and integrated planning processes. In addition, Finland has an internationally respected reputation as an expert in the water and environmental sectors, and performs well in international comparisons in these sectors.

It would be possible to significantly increase the amount and impact of Finland's international cooperation in the water sector from its current level. This would likewise support Finland's security policy objective of promoting stability by preventing political tensions and conflicts relating to the use of natural resources. The limited amount of international activities, the small number of cooperation net-

works, the weak international visibility of Finland's water sector, and the lack of needs-based approaches all regularly come to the fore when considering challenges related to extending the international scope of the water and environmental sectors. Finland's water sector is also fairly fragmented, and the sector's international operations are not founded on common themes and objectives. The small size of Finland's skills base also means that Finnish know-how is not especially broad, but concentrated in a few core areas.

The aim of this strategy is to increase international cooperation and the impact of Finnish actors in the water sector by identifying broad themes under which the water sector in particular could operate. At the same time, the strategy aims to define clear objectives and means to increase international cooperation and partnerships. The goal is that Finnish actors in the water sector will be better able to meet both

the needs of Finland's partners, and the challenges within their own areas of expertise arising from global changes, wherever possible taking into consideration the needs of regions that are sensitive to crises. The focus of the strategy is on freshwater (see Key terms).

Global changes are being felt to an increasing extent in Finland as well. Developing Finland's water sector and keeping it up to date will require effective international contacts and an understanding of global changes and their consequences. International cooperation and long-term partnerships are therefore also important for activities in the sector in Finland. For this reason the strategy is closely linked to national processes in the environmental and water sectors, and Finland's Water Programme in particular. Appendix 1 contains more information on the practical preparation of the strategy and its links to other processes in the water sector.

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## Key terms

### Water sector

The strategy covers the water sector in a broad sense, and is based on issues relating to the water cycle and multiple uses of water, particularly as part of sustainable development. Consequently, the strategy covers themes linked in various ways to the management and use of water resources, water and sanitation, and water conservation, as well as the parties operating under the themes both in Finland and abroad. The focus of the strategy is on freshwater, and the strategy's aim is thus to complement the strategies and programmes focusing on marine areas, especially the Baltic Sea. Marine areas such as the Baltic Sea do not therefore come within the remit of this strategy. Finland aims to adopt the EU's Baltic Sea Strategy at the end of 2009.

### International

The focus of the strategy, as its name implies, is on international issues relating to water. 'International' covers all those issues in the strategy that are linked in some way to activities outside Finland's borders. The strategy thus encompasses neighbouring regions and the European Union, developing countries and global processes relating to water, especially processes addressed by the United Nations and international financing institutions. 'International cooperation' therefore covers a wide scale of various forms of cooperation from business partnerships to cooperation on research and education and the work of NGOs, and from different forms of development cooperation to activities in international organisations and events.

### Partners

The terms 'partner' and 'partner country' are general terms that refer to the international partners of actors in the Finnish water sector both in industrial-

ised countries and in developing countries. Depending on the context, this type of partner could be a state, a private organisation, a ministry, a university, a company or even a financing institute.

### Goals

The strategy's vision is complemented by three goals: responsibility, partnership and recognition. Concrete targets are defined for each of these three goals both for the short term (1-5 years) and the long term (5-10 years). These goals and targets complement the objectives of the vision to form a robust foundation for the practical implementation of both the vision and the action plan to be prepared on the basis of this strategy.

### Water security

The main theme of the strategy is the promotion of water security. The next section of the strategy includes a separate detailed explanation of this concept.

# Vision and goals

The international strategy for Finland's water sector is based on the following long-term vision:

*"In cooperation with their partners, actors in Finland's water sector promote water security. Operations in the water sector are based on holistic approaches and the promotion of the three pillars of sustainable development, good governance and equality.*

*The international activities of the Finnish water sector bring together the needs of Finland's partners and Finnish expertise in specifically applied ways. Know-how in Finland's water sector is at an internationally high level and has developed a distinct reputation, based on close cooperation between various parties within Finland."*

The objectives expressed in this vision are complemented by three broad goals that form the foundation for the practical realisation of the vision. These goals are:

- **RESPONSIBILITY** – Finland's water sector operates in a responsible way, and the impacts of the sector and its relevance to the needs of societies and the environment within various contexts are good. Operations are guided on the basis of needs, and by giving consideration to local conditions. To guarantee this, the water sector operates on a cross-sectoral basis and combines strong expertise with a broader understanding of operating

environments, including issues outside the actual water sector.

- **PARTNERSHIP** – The international operations of Finland's water sector are based on long-term and equal partnerships. Forms of cooperation best suited to different situations and needs are developed flexibly. The development of Finland's partners' research capacities, model solutions, norms, management resources and infrastructure, and the strengthening of their ownership of these resources will play a central role, especially in developing countries. International operations are based on close cooperation between the various actors in Finland.
- **RECOGNITION** – Finland is known as an actor whose aim is to promote water security through long-term partnerships. To ensure this goal, Finland's water sector focuses its operations on thematic priorities that combine the needs of Finland's partners and Finnish expertise in innovative ways. The approach and operating practices of the water sector always depend on local conditions and cover a diverse range of cooperation modalities and operating practices.

To realise this vision and the related goals, concrete targets need to be set for specific aspects. Targets for all three goals for both the short term (1–5 years) and the long term (5–10 years) are presented below.



## Water security

The vision defines the promotion of water security as the key theme and main international objective of Finland's water sector, which will help the sector to achieve a profile itself. In the context of this strategy, water security concerns reducing risks relating to the health and well-being of individuals and communities, as well as the minimisation of risks relating to their food security and their other vital needs.

Factors that undermine water security particularly include insecurity arising from the lack of water and sanitation and the related health problems, the vulnerability of the water infrastructure, conflicts arising between the various uses of water, disputes linked to the use of transboundary river systems, problems relating to water quality and the statuses of ecosystems, and risks linked to the impacts of climate change on water and the natural resources that depend on it.

The promotion of water security is therefore above all linked to our understanding of the social importance of water and risks and conflict situations linked to water, and to the forecasting of changes and finding ways to adapt to changes. This requires broadly based approaches that can facilitate the

prediction of future changes, cross-cutting analyses of the factors causing insecurity, and examination of the root causes of insecurity and possible means to address them. These root causes are often to be found outside the actual water sector, so activities must be based on cross-sectoral cooperation. The means through which water security can be increased will be determined on a case-by-case basis, but the basic premises in pursuing them should be sustainable development and the promotion of good governance and equality.

The promotion of water security is also closely linked to the concept of water diplomacy. Water diplomacy means applying the experiences gained in conflict prevention and reconciliation, in particular, to prevent and solve water problems. In resolving conflicts it is also important to exploit Finland's international role, which is generally perceived to be neutral, as well as internationally approved regulations and practices. The aim of water diplomacy is therefore the prevention of insecurity relating to water, by focusing particularly on the identification of political links and power relationships concerning water and its use, and on resolving the conflicts that arise from these relationships.



## Responsibility

The water sector is currently in a state of considerable change. Various global changes are having a strong impact on water and the natural resources dependent on it, at the same time as the overarching role of water in areas such as poverty reduction, food and energy security and health care is being increasingly highlighted. Issues relating to the use of water are also becoming increasingly politicised. Finland's water sector aims to work responsibly within this complicated operating environment with a long term perspective, respecting its partners and demonstrating commitment to attaining the Millennium Development Goals relating to water.

The impacts of the water sector's operations and its close connections with society are becoming increasingly important. This demands a better understanding of the operating environment and fuller consideration of the social and political processes linked to water, especially in regions sensitive to crises in Africa, the Middle East, the Caucasus, Central Asia and Latin America.

Techniques relating to water use and management do not always require high technology and significant financial investments; indeed various solutions adapted to local conditions usually work best. For this reason, strengthening the capacity of local government and the ownership and capacity of local actors is vital. An emphasis on tailored applications is also important, and in both industrialised and developing countries a shift is increasingly clearly taking place from individual technical solutions towards more flexible processes and applications. The importance of broadly-based training and flexibility are increasing, since responding to changing situations requires a greater ability to read situations and react accordingly.

**The short-term target** is that Finnish actors in the water sector will engage in longer-term cooperation both among themselves and with actors in other sectors. Training should play a major role in all international operations, and strengthening the capacities and ownership of Finland's partners in developing countries should receive special emphasis. It will be especially important to increase social research and training related to water issues because a social understanding of water issues is in many respects still lacking. An interdisciplinary research programme for the water sector will be established in Finland to support this goal. Financing channelled to the water sector will encourage an interdisciplinary and applied approach, as well as cooperation between different sectors and disciplines. In terms of the Millennium Development Goals, it is important to specify the concrete objectives relating to water that Finland has promised to implement.

**The long-term target** is to significantly increase the impact of Finland's water sector. Actors in the sector should understand the changing needs and problems of different societies and environments, and be able to respond to them effectively. Since water issues are always closely linked to local conditions, sensitivity towards local needs is especially important. Actions taken in the water sector have an impact on economic development and are closely linked to other sectors, especially the environmental, health, agricultural, forest and energy sectors. At the same time, the aim is that the traditional sector approach will be replaced with a more holistic problem-based approach whenever possible.

## Partnership

Finnish actors in the water sector must become networked and proactively create partnerships with other actors. Equal partner-

ships involve not only working together, but also mutual learning and capacity strengthening. Partnerships help to identify both global and local changes and create opportunities for predicting changes and new ways of operating. Once Finland's water sector becomes networked and expands internationally, opportunities for financing activities will become more diverse. The channelling of sufficient financing towards cooperation is one of the most effective means to create partnerships. The strategy also encourages actors to pursue forms of cooperation best suited to var-

ying situations by adopting an open-minded approach. Sufficient resources should be reserved for creating, maintaining and developing partnerships and networks. Partnerships should not only be seen as a way to implement a specific project, but as long-term processes that create important added value.

Close and diverse cooperation between the various actors in Finland should form the basis for the international operations of Finland's water sector. It will be especially important to increase cooperation of public sector actors with other parties. Promis-



ing forms of domestic cooperation include greater involvement by NGOs in planning and implementing programmes, partnerships between small enterprises and cooperation between the public and private sectors in international projects. Effective information channels and the open flow of information between the different actors will play a key role in promoting partnerships.

**The short-term target** is to establish a network that brings together the actors in Finland's water sector on the basis of Finland's Water Programme and other key processes, and international water issues should have a clearly defined role in its activities. Another aim is to further the creation of new types of partnerships and networks both in Finland and internationally by supporting the creation and development of various forms of institutional cooperation. Finland's international partners should be actively involved in the strategy's operationalisation.

**The long-term target** is that the functioning of the national cooperation network of Finland's water sector will become well established, and that the sector's international activities will be increasingly based on long-term partnerships and networked cooperation. To ensure this, support should also be provided for research and training projects that include training provided in Finland for water sector actors from partner countries, and the training of Finnish actors in partner countries. Work carried out by young professionals in the sector within international organisations and projects will also be encouraged.

## Recognition

Finland's water sector is relatively small overall. Therefore, Finland should concentrate its efforts on certain priorities. Promoting water

security is the main theme through which Finland's water sector can gain an international reputation. In order to support this key theme, a limited number of thematic priorities will be specified incorporating partners' needs, interesting opportunities for research and applications, and the strengths of Finnish actors.

These thematic priorities will cover various forms of cooperation and activities. The goal of this distinctive and versatile approach is to create an advantage out of the smallness of the field of actors in Finland's water sector, as a result of which it will be possible to meet the needs of Finland's partners especially in those areas in which the country excels. Flexibility and the ability to innovate are also features of the competitive advantage brought about by the sector's smallness; if needs be, the courage must be found to abandon priorities that previously seemed promising, and to choose new ones.

**The short-term target** is to identify a limited number of thematic priorities that support the promotion of water security, and in which the Finnish water sector can bring particular added value. Proven forms of cooperation and action will be used to assist in specifying the priorities. The aim is also to improve the international recognition and involvement of Finland's water sector through a visible presence in selected international processes and events. A communication plan will be drawn up to identify means to promote cooperation and increase the recognition of Finland's water sector.

**The long-term target** is to develop a distinct reputation for the Finnish water sector internationally by promoting water security and related priorities. To further this objective, long-term partnerships will be created both in Finland and internationally around water security and the related priorities. Another aim is to identify new, upcoming priorities.



The most important aim of the strategy is to identify a limited number of thematic priorities that will advance water security, meet the needs of partners, and direct and promote the international activities of Finland's water sector. More detailed operational priorities will vary depending on local circumstances and needs, although the aim is that these more local priorities will be mutually coherent and also interconnect within the broader thematic priorities. The priorities should also support cross-sectoral activities and encourage actors in the water sector to work together.

The thematic priorities will thus facilitate a kind of focused diversity and a spec-

trum of activities in both partner countries and in Finland. At the same time, the aim is to ensure that the diverse but partially fragmented expertise of Finland's water sector will serve these priorities and that the various actors will combine forces under the common themes.

## Recognised priorities

On the basis of comments received on the strategy and background documents, as well as topical international processes, the priorities could include the following:





- An integrated approach to water resource management
  - For example, drainage basin-specific planning and the impact of land use changes on water resources; forecasting and managing risks relating to water; the use of monitoring, measuring and analysis systems as well as modelling and remote sensing skills; comprehensive data management; a multidisciplinary and interdisciplinary approach
  
- Developing water institutions
  - For example, good governance and the cross-cutting role of water in development; the institutional development of water and sanitation systems and health issues linked to water; developing well-functioning permit and supervision systems; improving local capacity; promoting training on water issues, especially in developing countries
  
- The impact of climate change on water systems and climate change adaptation
  - For example, forecasting floods, droughts and other extreme weather phenomena and their related risks; inter-linkages between climate, forests and water systems; changes in the availability of water and other key natural resources caused by climate change
  
- The protection and restoration of river systems, including issues relating to water quality
  - For example, water protection instruments, guidelines and legislation, including the impacts of agriculture on river systems; the use and purification of household and industrial water;

the effective use of water bodies and solutions based on the sparing use of resources, especially in industry

- Security issues relating to water
  - For example, transboundary water bodies and their joint management; internal conflicts in countries and the links between migration and water; the connections between water and health; legal issues relating to water; taking advantage of water diplomacy

In the context of all these priorities it is important to adopt comprehensive, multi-disciplinary approaches, and to focus on applicability. These approaches should form constant elements as cross-cutting themes for the priorities described above.

### **Forthcoming priorities**

New, upcoming needs often relate to responses to critical challenges, and consequently they can offer the most interesting opportunities for solving problem situations relating to water and for capitalising on Finnish expertise. Identifying new needs requires open-minded practices that look far into the future together with confidence in the opinions of the sector's actors and their partners. In identifying needs it is vital to be sensitive to local conditions and dynamics, and to focus on long-term cooperation with partners.

From the perspective of financing parties, it is important to offer sufficient resources for the interfaces of themes and priorities specified in advance, and even to cover cooperation projects entirely outside these areas. Support should particularly be given for implementing ideas located in between the different sectors and skills areas.

## Implementation guidelines and action plan

The successful implementation of the international strategy for Finland's water sector and the action plan that will be prepared to follow it up require a clear division of functions and responsibilities between the various actors in the sector. The main responsibility for implementing the strategy and drawing up the action plan rests with the international water working group of officials reporting to the Ministry for Foreign Affairs<sup>1</sup> together with the parties who will implement Finland's Water Programme. At a later stage, the operationalisation of the strategy could be the main responsibility of the proposed water sector cooperation network (see Appendix 3).

Implementing the strategy will require the commitment of the key parties through their own actions. It will be especially important to receive support for the strategy's objec-

tives from the different administrative sectors and programmes, and to secure long-term financing for implementation. Since the strategy places a great emphasis on partnerships, cooperation must be carried out with Finland's international partners during the operationalisation stage. The participation of partners will also be important when the strategy is updated.

In terms of practical implementation, it will also be important to specify linkages to other key strategies and programmes in the water and environmental sectors (see Appendix 1). However, it should be noted that the strategy is not tied to any individual programme, but rather aims to direct the promotion of the international cooperation, impact and visibility of Finland's water sector over the long term, capitalising on existing programmes. The implementation of the strategy will also involve communicating its goals and measures to various parties, including actors outside the water sector. Appendix 3 describes the key guidelines for implementing the strategy, particularly relating to the water sector cooperation network, forms of international cooperation, promoting recognition, and the practical organisation of the strategy's operationalisation.

## Sufficient resources

The need for resources to implement the strategy should be evaluated as a whole and over the long term. Although the financ-

<sup>1</sup> *The international water working group of officials is an informal working group comprising officials who are responsible for matters relating to water in the different ministries. The working group meets as necessary by invitation of the Ministry for Foreign Affairs to discuss key international events and processes in the water sector and Finland's role in them. Experts from, for example, research institutes, universities and NGOs, together with actors such as SITRA, TEKES (the Finnish Funding Agency for Technology and Innovation), FINPRO and EK (the Confederation of Finnish Industries) are also invited to the group's meetings as necessary. The working group has been involved in the preparatory work for meetings of the UN Commission on Sustainable Development (CSD) and the World Water Forum, also arranging related events and the production of related materials.*

ing for water and environmental sector programmes that are already underway will support the implementation of the strategy, this alone cannot be the sole solution for its implementation. Predictability and a long-term approach to the provision of financial resources are vital to the strategy's implementation. However, financing channelled through development aid must also fulfil international aid criteria. The continuity of financing is especially important for institutional cooperation, as well as for research and training. For this reason, water sector programmes and the various forms of support should be planned so that they complement each other, and the implementation and financing of the strategy must have the joint approval of the various parties.

Having sufficient resources means not only financial resources but also various human resources. There must be a sufficient number of employees with responsibility for water issues within administration and other financing parties, as well as in partner countries. For this reason, it will be very important to safeguard well-rounded training within Finland's water sector so that the sector continues to have a supply of motivated experts who are also willing to go abroad. Broad-based cooperation between the universities and research institutes and other actors will ensure diversity in training and research in the water sector, as well as connections to practical needs.

A significant number of Finnish water experts work in the public sector, for example in state and municipal administration as well as in research institutes and universities. Public sector water experts also form a major group of actors in terms of international cooperation, and they should be encouraged to participate more actively in international cooperation. At the same time, it will be important to consider the generational

change that will take place in the water sector over the coming years, and to ensure that this change creates opportunities for enhancing international cooperation in the water sector.

## Monitoring

In monitoring the strategy's implementation it will be vital to ensure the realisation of the short-term and long-term targets and safeguard the activities of the various actors and the responsibilities set out for them. On the basis of such monitoring additional resources will be made available, where necessary, to those sub-areas that prove to be the most challenging to implement. Likewise, the changes impacting on the strategy's themes will be monitored, and an assessment will be made on their basis as to whether there is a need to change the vision, objectives and means defined in the strategy.

The monitoring of the strategy will at least initially be the responsibility of the international water working group of officials, which focuses on international water issues as part of Finland's broader Water Programme. In addition, an external actor should be assigned to evaluate the implementation of the strategy at regular intervals (e.g. every fourth year). This monitoring of implementation would be accompanied by an evaluation workshop, to be held yearly or biennially, bringing together key actors in the water sector to discuss the attainment of the strategy's objectives and the possible need to update them. The strategy may also be updated, if necessary, on the accession of a new Government.

Appendix 4 specifies the targets presented in the strategy for each of its three main goals, together with suitable indicators for assessing their realisation.

## Appendix 1. Preparation process

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The Government adopted a Resolution on 23 November 2006 on “Water Protection Policy Outlines to 2015”. One of its recommendations was that Finland’s experience of good practices in water protection should also be exploited in international cooperation. For this purpose, the resolution called for an international strategy for Finland’s water sector to be drawn up in cooperation with various administrative sectors and other key actors.

The international strategy for the water sector is linked to many other topical processes in the water and environmental sectors. The current Government has placed a stronger emphasis on environmental and climate issues in its development policy than was the case previously. The Government Programme states that environmental technology will be promoted in cooperation with the environmental administration and other actors operating in the sector. Environmental and water technology will be developed for this purpose, also with a view to its export potential. Sitra and its National Action Plan for the cleantech sector will play a major role in improving the export potential of the water sector. One of the aims of this strategy is also to develop the above action plan from the perspective of the water sector. Furthermore, it will be important to link the strategy to processes relating to climate change impacts and adaptation, as well as to food and energy security.

The planning of a broad-based national water programme is also currently underway. The objectives of Finland’s Water Programme will include increasing awareness of the water sector, improving the level of research in the water sector, expanding the sector’s international scope, increasing business activities, creating experts and bringing water issues within the remit of Finland’s development policy in a cross-cutting way, guided by the Development Policy Programme (2007). The preparatory work on the strategy is also

closely linked to the five-year Water Programme (2008-2012) approved by Tekes, the Finnish Funding Agency for Technology and Innovation, in January 2008. The total budget of the Tekes Water Programme is around EUR 91 million, and the programme aims to bring about a transformation in the water sector and to promote the sector’s international development by creating new cooperation structures and reducing its fragmentation.

The practical preparation of this International Strategy for Finland’s Water Sector was the responsibility of a preparatory group coordinated by the Ministry for Foreign Affairs. This group also included representatives from the Ministry of Agriculture and Forestry, the Ministry of the Environment and the Finnish Environment Institute (SYKE). The strategy was ultimately drafted by Marko Keskinen of Helsinki University of Technology under the group’s direction.

Efforts were made to encourage the participation of various actors as much as possible in the preparation of the strategy. Opinions received from 15 parties in response to a request for comments submitted on 9 August 2007 were used as the basis for the first draft of the strategy. The background paper included in the request for comments and other related documents were also used in the drafting process. A workshop held on 12 March 2008 also played a crucial role in the preparation of the draft strategy, which was significantly updated on the basis of the discussions held in the workshop.

An official draft of the strategy was sent to various actors for comments on 23 April 2008, and also published on the website of the Ministry for Foreign Affairs. A total of 17 parties commented on this draft, and efforts have been made to take into account these comments as much as possible in the drafting of this present final version of the strategy.



## Appendix 2. Key international processes

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In terms of sustainable development and reducing poverty, the most important international process is the attainment of the Millennium Development Goals (MDGs) adopted at the United Nations' Millennium Assembly in 2000, to which Finland is committed in line with the Government Programme. The most important **Millennium Development Goal** in terms of water is goal number seven: ensuring environmental sustainability, in relation to which the UN member states are committed to halving the number of people living without clean drinking water and adequate sanitation by the year 2015. This objective is also important with respect to reducing poverty and promoting health, because functioning water and sanitation systems are the basis for sustainable welfare, and adequate access to clean water is the starting point for ensuring hygiene. This objective is also supported by the fact that the right to water is generally recognised as a human right within the framework of the UN. The central role played by water in areas such as food production, poverty reduction and health issues means that water is linked as a cross-cutting theme to the attainment of all the other Millennium Development Goals.

One of the most important – and most controversial – of the international processes linked directly to water is the **Integrated Water Resources Management (IWRM) approach**. This approach aims to promote economic well-being through the integrated management of water resources and other natural resources, while similarly ensuring socially balanced and environmentally sustainable development. The IWRM approach emerged as a key theme relating to water at the Johannesburg World Summit on Sustainable Development in 2002, during which the world's nations agreed on drawing up IWRM plans for all important river basins. At the UN's Millennium +5 Summit in September 2005, IWRM was highlighted to a greater extent as one

of the key approaches to achieving the UN Millennium Development Goals. However, criticism has also been levelled at the IWRM approach for the reason that the approaches it advances do not give adequate consideration to political issues linked to water management.

The UN's **Water for Life Decade, 2005-2015**, is also linked to the MDGs and the IWRM approach. Its aim is to promote the achievement of the MDGs and the implementation and development of the IWRM approach. The Water for Life Decade is a "Decade of Action", and its focus is therefore on practical actions and applied research. The activities of the Water for Life Decade are coordinated by UN-Water, which is a multidisciplinary and cross-sectoral cooperation body made up of different UN agencies. The main themes of the Water for Life Decade are food security, health, the environment, biodiversity, energy, disaster prevention, transboundary water issues, water scarcity, sanitation, water pollution and agriculture. A special theme of the Water for Life Decade is the participation of women in development issues relating to water.

The UN **negotiations on mitigating climate change and adaptation to climate change** constitute one of the most pressing international processes in which water plays a key role. Water is closely linked to climate change in four different ways: 1) most of the impacts of climate change on the environment and society come about through the hydrological cycle and the changes taking place within it; 2) many of the uncertainties concerning climate change processes are closely related to water; 3) climate change will have a major, primarily negative, impact on water systems throughout the world; and 4) the linkages between water and climate go in both directions, so the changes taking place for various reasons in river systems also affect the global climate. For this reason, actions

to mitigate and adapt to climate change should be based on a clear understanding of the hydrological cycle and the role it plays in climate.

**The European Union (EU)** is one of the most important international forums for Finnish actors, and a point of reference for international activities. The EU is a proactive and visible international actor in the water sector, and together with its Member States it is the largest donor of development aid to the water sector worldwide. The EU channels its aid for the water sector primarily through the European Development Fund (EDF), and water is also included in the EU's new development financing instrument, which was launched during Finland's EU Presidency in 2006. The aim of the EU's Water Initiative, signed at the Johannesburg Summit, is to encourage countries in Africa, the Caucasus, Central Asia and Latin America to engage in constructive talks together with the EU Member States on needs and financing for the water sector. The EU's research programmes, such as the Seventh Framework Programme and its related researcher network, are also important for Finnish actors.

The most important recent water policy defined internally within the EU is the **Water Framework Directive** (WFD), which came into force in 2000. Its central objective is to improve the quality of surface water and groundwater so that by 2015 the status of all river basins within the Union is at least good. An important directive from the perspective of water security is the EU's Floods Directive, which came into force in 2007, aiming to reduce

the harmful effects of floods on people's health, the environment, cultural heritage and economic activity. Other EU directives relating to water include the Groundwater Directive, Sewage Sludge Directive and the Drinking Water Directive. Enhancing future transboundary water cooperation is another EU priority. Water also plays a central role in the EU's climate change adaptation plans, which include issues relating to drought and water scarcity as well as extreme weather phenomena. All these priorities and plans naturally impact on Finland's neighbouring areas and especially the new EU Member States.

On the basis of its Water Initiative, the EU has concluded cooperation agreements to develop the water sector with at least Africa, Latin America, Eastern Europe, the Caucasus and Central Asia. The Initiative has aimed to trigger regional dialogues, define development objectives and build capacity.

In addition to the processes described above, various **international laws and regulations** also affect the coordination of various uses of water and the search for solutions to potential conflict situations. Good examples of this include treaties on the use of international water bodies, including the Helsinki Rules on the Uses of the Waters of International Rivers, concluded in 1966. Such treaties play a vital role in settling disputes between states on the use of transboundary watercourses and the impacts of various forms of water use. Another current international theme relates to legal issues concerning access to water and the use of water.

## Appendix 3. Guidelines and parameters for implementation

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This appendix describes the main guidelines and parameters that must be considered when preparing the action plan for this strategy. The guidelines focus on four themes: a cooperation network for the water sector, the various forms of international cooperation, promoting international awareness and practical operationalisation.

### **Setting up a cooperation network for the water sector**

The sensible implementation of the strategy will require the fragmentation of Finland's water sector to be reduced so as to improve coordination and networking between different actors. Increasing cooperation will also more effectively guarantee that the strategy will be directed especially at those areas (both thematically and geographically) in which Finland has expertise and experience. In terms of both unifying Finland's water sector and implementing its international strategy, it will be necessary to set up a broad-based international cooperation network for the water sector. The Finnish Water Forum, established in April 2009, already constitutes a basis for such a network. Increasing the appeal of this kind of national cooperation network and its practical activities will need clear management, equipped with sufficient resources for bringing the various actors together and maintaining the activities of the network. The cooperation network will promote international cooperation in the water sector and the exchange of information and experiences between the different actors. The cooperation network for the water sector must operate in a role that brings the different actors together, encourages new ideas and forms of cooperation, obtains international visibility for the water sector and ensures that the Finnish water sector continues to attract new, motivated experts. Establishing and maintaining the operations of such a network also requires a plan to safeguard long-

term financing. Finland's Water Programme will play a particularly important role in setting up the cooperation network.

The planning of the cooperation network and its supporting coordination must involve all the actors in the water sector: including the ministries and financing parties, universities and research institutes, NGOs, expert organisations and enterprises connected to water. The network must be developed in cooperation with existing networks within Finland's water and environmental sectors, in order to avoid duplication and ensure complementarity.

### **Forms of international cooperation**

Various forms of international cooperation are closely connected to the practical implementation of the strategy and its priorities. The strategy, its vision and objectives should also be comprehensively taken into account in the various forms of international cooperation, in ways that most naturally suit each form of cooperation.

One of the most important forms of international cooperation is bilateral cooperation, including the bilateral cooperation conducted through Finland's development cooperation funding, various business and trade partnerships, and cooperation with Finland's neighbouring countries based on transboundary water agreements, for instance. Bilateral cooperation is often complemented by regional cooperation: examples of such cooperation can be found both in Finland's neighbouring regions (e.g. Baltic Sea cooperation) and in regions that are the focus of our development cooperation (e.g. the Nile and Mekong River regions). In addition, cooperation within the European Union and as part of the EU's various forms of international cooperation constitutes an important form of international partnership, as well as an important influencing mechanism. Multilateral cooperation based in particular on the UN system,

the development banks and their related processes is a key form of cooperation, especially in terms of global processes.

International cooperation is undertaken at various different levels outside actual government structures. Different types of NGO partnerships typically respond to local needs and problem areas in a practical way. NGOs both in Finland and internationally also play an important role in identifying new challenges and opportunities, and in provoking critical debate. The many forms of cooperation between universities and research institutes create opportunities for research projects that develop new practices and build up capacity both in Finland and in partner countries. Various forms of cooperation with the private sector are also taking on an increasingly important role in many regions, and many Finnish enterprises now operate globally. At the same time, companies are increasingly engaging in cooperation with actors outside the private sector.

### **Promoting international awareness**

Although expertise in Finland's water sector is of a high standard, and the sector holds up well in international comparisons, the Finland's water sector is not as well known as, for example, Sweden's. To gain enhanced international recognition, the priorities of Finland's water sector need to be more clearly defined, various actors must become more committed to their implementation, coordination between Finnish actors must improve, the sector must get more deeply involved in key international processes, and there must be clearer differentiation and better marketing of Finland's expertise in water issues. International recognition is primarily built on the basis of a good reputation and genuine actions; so priorities and marketing slogans must be based on actual expertise and a can-do attitude.

Cooperation between different actors also means close cooperation in Finland with other processes and programmes that have an international focus (Appendix 1). Ensuring visibility in the broad sense will be important for the water sector. In order to

increase this visibility, it is proposed that a communication plan be drawn up, the responsibility for which will rest either with Finland's Water Programme or the water sector's own cooperation network. This plan will aim to identify clearly defined means to increase cooperation within and the recognition of the water sector both in Finland and internationally. In addition to partnerships built around the various priorities, such means could include programmes and campaigns focusing on certain themes, thematic publications and seminars, as well as international prizes in the water sector.

### **Practical operationalisation of the strategy**

The operationalisation of the strategy will require arrangements under which the responsibility for directing the strategy and its implementation is clearly specified. As stated in Chapter 4 of this strategy, the current water working group of officials will steer the strategy at least during the initial stages, as the logical responsible actor, whereas responsibility for the actual implementation will be assigned in cooperation with Finland's Water Programme.

An initial proposal for an organisational model for the operationalisation of the strategy is described below. The idea is that the strategy's operationalisation will be divided into three levels: steering, implementation and actual realisation. According to this proposal, the practical direction, monitoring and implementation of the strategy will be the responsibility of the individuals appointed for the tasks in cooperation with Finland's Water Programme, and possibly the related cooperation network that will be established. Implementation will be strengthened, where necessary, through different thematic working groups in which the participants will have the opportunity to discuss special features of the strategy's operationalisation, such as issues concerning neighbouring regions, development cooperation or participation in international events. The various actors in the water sector, ranging from the ministries, NGOs and universities to companies, will naturally act as the actual implementers of the strategy.



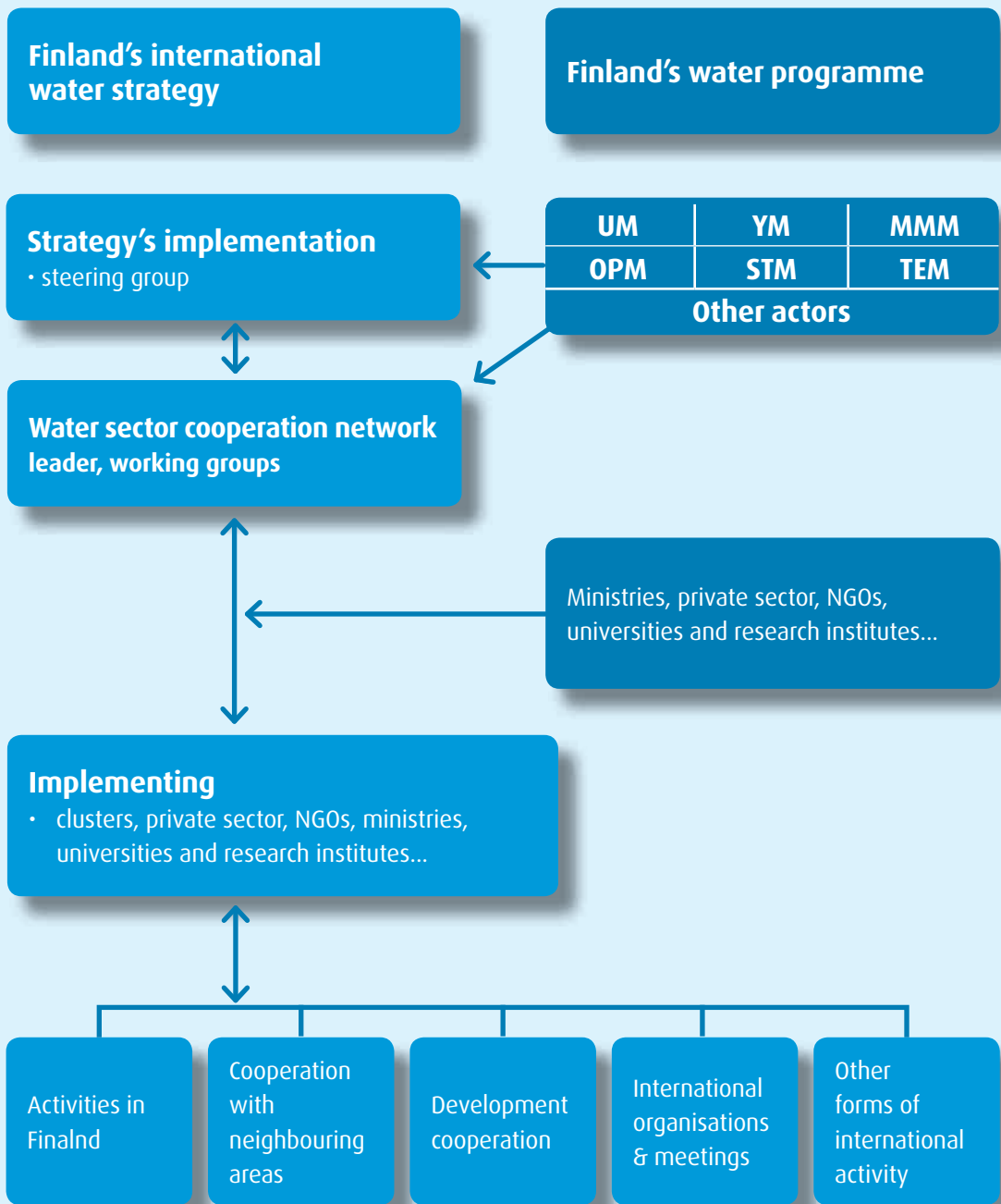


Figure 1. Proposed organisational model for the operationalisation of the strategy.

UM = Ministry for Foreign Affairs (MFA)

YM = Ministry of the Environment (MEv)

MMM = Ministry of Agriculture and Forestry (MA&F)

OPM = Ministry of Education (MEv)

STM = Ministry of Social Affairs and Health (MSA&H)

TEM = Ministry of Employment and the Economy (ME&E)

## Appendix 4. Targets specified under each of the strategy's goals, and indicators for assessing their realisation

Monitoring the implementation of the strategy will require clearly defined objectives, indicators that can be used to measure the attainment of the defined objectives, and consequently also means for activities to be developed and possible problems to be addressed. The tables in this appendix describe the general indicators for the attainment of the short-term and long-term targets specified under the strategy's three main goals. The idea is that these indicators can be used to facilitate the preparation of the action plan that will be based on this strategy.

Since many of the targets described in the strategy support each other, and are thus partly overlapping, the indicators also contain many similarities. The majority of the indicators described in the tables are qualitative and descriptive, and even partially self-evident. On the other hand, many of the targets described in the strategy are at such a general level that setting of detailed quantitative indicators for their realisation is not feasible. The table below aims to ensure that the targets specified under the goals can in general be identified, that specific indicators can be defined for their implementation, and that the implementation of the targets can thus be monitored.

RESPONSIBILITY	
Targets	General indicators
<b>Short-term targets</b>	
Finnish actors engage in longer term cooperation both in Finland and internationally.	The actors in the Finnish water sector are cooperating closely through a clear cooperation network. International water issues have their own clear role in this network.
Training and mutual learning (especially social research and training) play a key role in all international cooperation.	Training and approaches aiming at mutual learning have a strong role, which is identified in the planning stage, in all activities in the water sector. Social research and training relating to water is a priority, and social perspectives occupy a central role in the operations of the water sector.
An interdisciplinary research programme on the water sector will be established in Finland.	An interdisciplinary research programme on the water sector has been established in Finland, with close links to the international activities of the water sector.
Financing for the water sector encourages a cross-sectoral and applied approach as well as broad-based cooperation.	The conditions in question play a key role in the funding criteria for water sector projects, irrespective of the financing party.
In terms of the Millennium Development Goals, the concrete MDGs relating to water that Finland is committed to realising should be specified.	Finland's contribution towards implementing the MDGs relating to water – especially reducing the number of people without access to water and sanitation – has been clearly defined, and also highlighted in international forums. Sufficient resources have been allocated to enable the various parties to act to achieve this goal.

<b>RESPONSIBILITY</b>	
<b>Targets</b>	<b>General indicators</b>
<b>Long-term targets</b>	
The Finnish water sector understands the needs and problems of societies and the environment, and is also able to respond to them.	The activities of the water sector are based on local needs and achieving long-term results. The achieved results are evaluated in both the short and long term, and the results of evaluations are used to develop activities.
Finnish actors are responsible and reliable partners who operate in cooperation with their international partners.	International cooperation by Finnish actors is long term and based on equal partnerships. See also the above indicators.
Actors in the water sector have close links to other sectors, especially the environmental, health, agricultural, forest and energy sectors.	Greater cooperation is undertaken with other sectors in the work carried out by the water sector – also such that the actors in the water sector are integrated in the activities of other sectors. The number of cross-sectoral water projects is higher than today.
The traditional sectoral approach is replaced with more integrated problem-based approaches, whenever possible.	Defining what constitutes typical water sector operations is more difficult, because actors in the sector participate in very different cooperation projects across sectoral and other boundaries. Activities are increasingly defined on the basis of needs and problems.

<b>PARTNERSHIP</b>	
<b>Targets</b>	<b>General indicators</b>
<b>Short-term targets</b>	
A network bringing together actors in the water sector is set up in Finland, with its activities strongly focused on international water issues.	A cooperation network bringing together the actors has been established in the water sector in Finland, and international water issues have a key role in the activities of the network.
The establishment and development of various forms of institutional cooperation are actively supported.	Financing for the water sector's activities is increasingly being switched from project-based support to forms of financing that support long-term institutional cooperation. Various sources of funding and operating practices are used in activities.
Finland's international partners are actively involved in the operationalisation of the strategy.	Finland's partners have been offered the opportunity to comment on the strategy, and are actively participating in its operationalisation and updating.
<b>Long-term targets</b>	
The operations of the water sector's national cooperation network are becoming established, and the sector's international activities are based on long-term partnerships and network-based cooperation.	The position of the cooperation network for Finland's water sector has become established, and the network has a clear coordinating party and sufficient resources for promoting and maintaining cooperation. The activities of the water sector are increasingly clearly characterised by long-term partnerships.
Support is provided for research and training projects involving Finland and its partner countries are supported, and for work undertaken by young professionals in international organisations and projects.	Research and education have a clear role and sufficient resources. Clear support structures (including financing) exist for research and educational exchanges, and for working in international organisations and projects. The numbers of people participating in the above activities are greater than at present.

RECOGNITION	
Targets	General indicators
<b>Short-term targets</b>	
A limited number of thematic priorities supporting the prevention of water insecurity are identified.	Clear priorities have been specified in Finland's water sector on the basis of this strategy, and both the sector's actors and cooperation partners are aware of them.
The international connections of the water sector and its overall recognition are improved by being visibly involved in selected international processes and events.	Actors in Finland's water sector are involved in key international processes, including World Water Forums and the activities of UNESCO's International Hydrological Programme. Sufficient resources have also been allocated for such activities.
In order to increase the visibility of the water sector, a communication plan is prepared for the water sector.	A communication plan supporting the operationalisation of this strategy has been drawn up, with responsibility allocated for its implementation.
<b>Long-term targets</b>	
Finland's water sector has developed a clear identity internationally by promoting water security and related priorities.	Finland's water sector is especially known for its work in promoting water security in cooperation with its international partners.
Long-term partnerships and events both in Finland and internationally are built around water security and related priorities.	The water sector's international partnerships and events are particularly based around water security and the identified priorities.
New priorities are identified in the water sector to address issues that are important to Finland's partner countries, and in which Finland's water sector possess expertise.	Activities and cooperation in the water sector are directed not only by the priorities already identified, but also by new priorities, with efforts made to identify such priorities flexibly.



## Appendix 5. Cross-cutting themes and drivers relating to water

Many cross-cutting themes and drivers of change should be taken into consideration when defining priorities for the strategy, and in realising the strategy's objectives. The table below describes the most important cross-cutting themes and

drivers of change relating to water issues, including factors specified in the background paper on the Water for Life Decade research programme, which was referred to when the objectives for this strategy were defined.

CROSS-CUTTING THEMES AND DRIVERS	DETAILED DESCRIPTION AND EXAMPLES
Economic development and globalisation	Economic development and changes in economic structures impact on the use of water resources and the organisation of water services. For example, industrialisation and the promotion of renewable sources of energy could increase the pressure to develop hydroelectric power. On the other hand, economic well-being may enable increased consideration on the environment. At the same time, globalisation is linking different regions ever closer together and strengthening various linkages: Finnish consumers and employees, for example, may have an increasingly strong impact on industrial and agricultural production in developing countries, and thus also on the use of water in these countries.
Institutional and legal foundations	This theme includes international treaties and cooperation bodies as well as EU and national legislation and cooperation. In issues concerning the use of water and its related natural resources, the participation of citizens and communities (local democracy) and the exploitation of their knowledge in water management are frequently discussed. One current topic of debate internationally is the legal approach to water, and this debate includes consideration on whether access to water should be a human right.
Technological development and innovations, especially ICT and biotechnology	Developing technology and various innovation systems are creating new scope for technological applications, and at the same time new research needs. Examples include developments in information technology in the fields of observation and measuring technology, positioning systems, remote sensing, modelling, software, Internet-based and other real-time monitoring systems. The technological development of forms of production and societies can also be considered as drivers of change. Developments in biotechnology may also have major implications, especially for water treatment and purification methods.

CROSS-CUTTING THEMES AND DRIVERS	DETAILED DESCRIPTION AND EXAMPLES
Social and political changes	An extensive theme which includes, for example, demographic changes, changes in social values, environmental concepts and various political and social changes. Political changes may have an effect on the grounds for using water, while the opinions and values of the public and decision-makers may change, for example, in relation to water regulation, the recreational value of water, or pricing criteria for water. Within this theme there is also a need to link research on water to political planning and decision-making more effectively.
Health grounds	The foundation of all water use is that it does not harm or endanger human health. Clean drinking water and harmful health effects of contaminated water (e.g. pathogens, water-borne epidemics, environmental toxins) are important research subjects both nationally and internationally. They are also closely linked to the attainment of the MDGs.
Changes in natural resources and land use	Land use is undergoing change through, for example, changes in industries, more effective agriculture and forestry, and migration from rural areas to urban areas and growth centres. Correspondingly, decisions on land use planning may affect the environment and climate. One of the central global issues relating to the environment and science is the sustainable use of natural resources: finding the dividing line between over-use and effective sustainable use within the continuously changing overall system (the environment, resources, people) is one of the most challenging research themes for modern society.
Biological changes	In both surface and subterranean bodies of freshwater, biodiversity is important both to the usability and availability of their water. Biological change and adaptation is continuous, and the time scale of events is extremely long. All freshwater bodies contain a biotic world whose protection may conflict with the various uses for water.
Environmental changes	The changes – both positive and negative – taking place within biodiversity and the state of the environment are included in this broad theme. The environmental perspective covers land, water, the atmosphere, and the interaction between these elements. This theme is also linked, for example, to changes in the environment caused by the use of harmful substances and natural resources.

CROSS-CUTTING THEMES AND DRIVERS	DETAILED DESCRIPTION AND EXAMPLES
Climate change	<p>This global driver of change refers to a range of variations and changes, especially in temperature and total rainfall. Climate change will have a major, although still fairly unpredictable, impact on water resources, as well as more broadly on water supply, sewerage and the environment in general. Water and the hydrological cycle are at the same time a key factor in many areas of climate change. As international climate agreements come into play, the close linkages of the water cycle to important renewable sources of energy (hydroelectric power, biofuels) will most likely increase the need to research the inter-linkages between water and energy production, for instance.</p>
Exceptional natural conditions and the management of related risks	<p>When referring to water, this theme is linked to floods and droughts in particular. Changes in the occurrence of these phenomena are affected by issues such as climate change, environmental changes and changes in land use. The increasingly severity of natural weather phenomena and the need to plan for such events is an example of a problem demanding a multidisciplinary and broad-based approach. The importance of managing the risks arising from water and its scarcity is highlighted in the context of climate change.</p>

# Partner countries in development cooperation in the water

## Regional cooperation: Eastern Europe, Central Asia and the Caucasus

- Developing regional cooperation in the water sector
- The Rivers Commission between Kazakhstan and Kyrgyzstan
- Regional dam safety cooperation in Central Asia
- Environmental cooperation on the Dniester river basin in Moldova and Ukraine

## The Palestinian Territories

- Project on the fair and sustainable use of water

## Regional cooperation: Africa

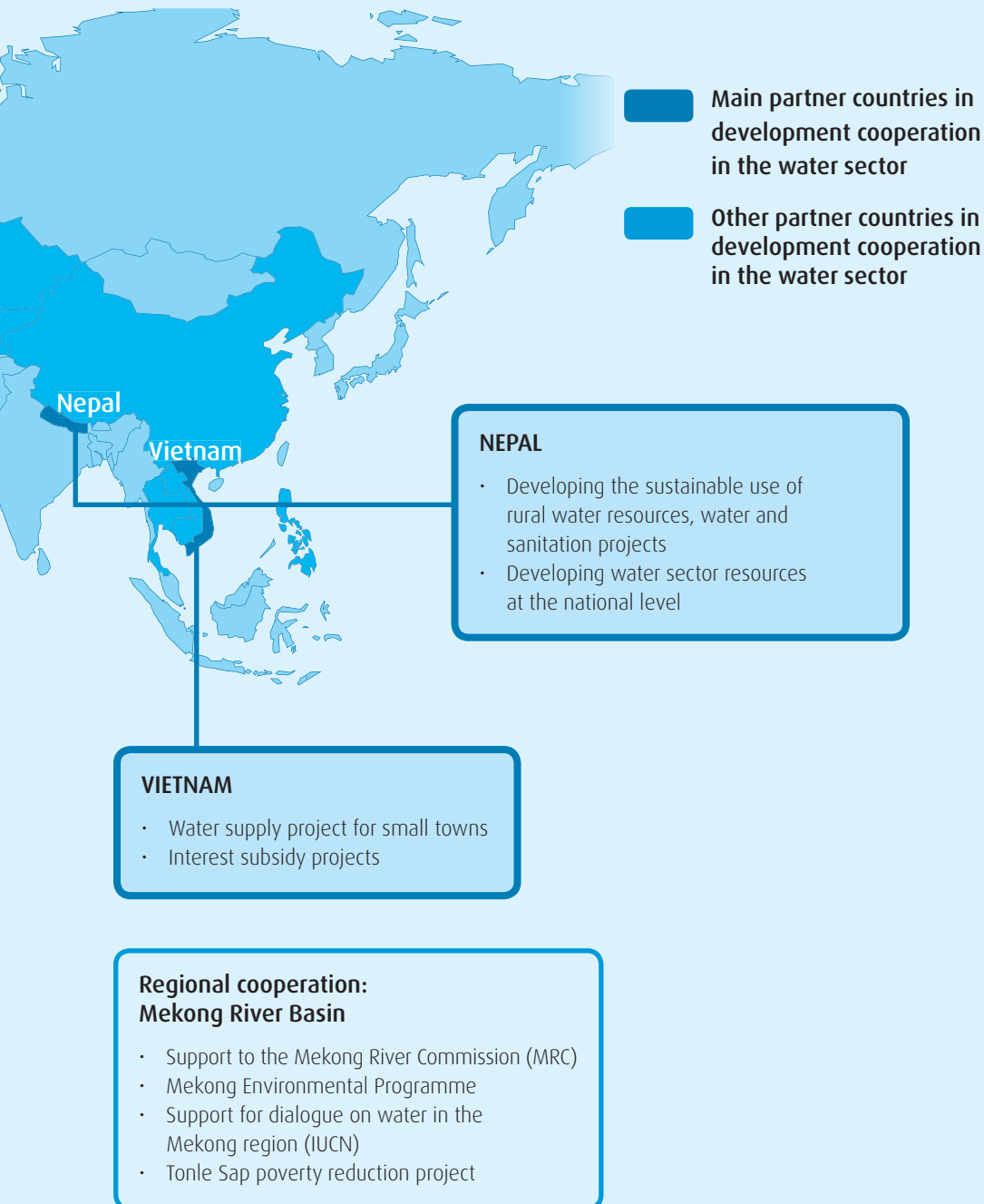
- Support to the Eastern Nile Technical Regional Office, ENTRO
- Lake Victoria Basin Commission Partnership Fund
- Support for attaining the MDGs on water and sanitation



## ETHIOPIA

- Projects on rural water supply, sanitation, the environment and hygiene
- Developing the sector programme for the water sector and increasing resources
- Integrated Watershed Management Programme











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