

Macedonia

Draft SDG#6 Strategy

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Abbreviations

CoP	Community of Practice
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
EU	European Union
IWRM	Integrated Water Resources Management
MDG	Millennium Development Goal
MoEPP	Ministry of Environment and Physical Planning
MoFA	Ministry of Foreign Affairs
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
PES	Payments for Ecosystem
SECO	State Secretariat for Economic Affairs
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goal
UNDP	United Nations Development Program
WASH	Water, Sanitation and Hygiene

Background

This draft SDG#6 strategy was developed during the 32nd AGUASAN workshop, held in Spiez, Switzerland, between June 26th and July 1st 2016. AGUASAN (www.aguasan.ch) is an interdisciplinary Swiss Community of Practice (CoP) that brings together a broad range of specialists to promote a wider and deeper understanding of key water and sanitation management issues in developing and transition countries. It builds on committed sector professionals from various specialised institutions involved in Swiss development cooperation, humanitarian aid and research. Since 1984, the CoP provides an exemplary, vibrant and most pertinent exchange platform and think-tank serving the water sector, and constitutes an essential link to the innovation and knowledge management strategy of the Swiss Agency for Development and Cooperation (SDC).

During the annual AGUASAN workshop, water and sanitation specialists from all over the world gather for five days to collectively reflect on a cutting-edge topic of the water sector. The workshops provide a joint learning experience and utilises the broad knowledge of the participants to elaborate strategies and conceptual tools of practical use for development work and sector interventions at local, national and global level. The 2016 AGUASAN workshop focused on means of implementation to achieve the dedicated water goal of the 2030 Sustainable Development Agenda (SDG#6). The workshop was structured around three country cases (Tanzania, Haiti and Macedonia), for each of which draft SDG#6 strategies were prepared. The strategies build on the current situation of the countries and include practical means of implementation inspired by practical examples presented and discussed during the workshop. The draft strategies can be used to support local decision makers in shaping the national development plans.

Introduction

The structure of the present strategy mirrors the course of the 2016 AGUASAN workshop:

- The first section provides a broad overview of the country's current situation as well as the specific challenges and opportunities of the sector
- The second part outlines the desired future state (vision) to be achieved by 2030
- The third part draws a possible way to achieve the desired future state through a number of concrete Means of Implementation
- The document concludes with a synthesis reflecting the overall strategy for implementation

Overview of the current situation in water and sanitation

Political and regulatory framework

- Highly politicised environment: Strong political influence on the entire water sector means that transformations are slow and difficult
- Strongly fragmented water sector: WASH responsibilities are dispersed over numerous authorities (Ministry of Health, Ministry for Environment and Physical Planning, Ministry for Transport and Communications, Municipalities, Water Regulator within the Energy Regulatory Commission (as of October 2016, see below)
- An on-going EU study (Development of National Water Study (EuropeAid/136505/IH/SER?MK) tries to identify the need for a water sector reform in Macedonia. In a proposal, commissioned by SDC, the creation of a national water agency with overall responsibilities in water and sanitation was recommended. The proposal is currently pending on the higher decision-making level.
- Water and sanitation infrastructure and assets are owned by the public utilities and municipalities. They originate from former Yugoslavian time and are aging and deteriorating.
- All taxes and charges collected from water- and sanitation-related services at national level are (theoretically) transferred to the central water program, from where it is (again theoretically) redistributed to address different issues. The budget is mainly allocated to water supply and sanitation, whereas IWRM and ecosystem protection receive comparatively little attention.
- Current water tariffs are largely non-cost-recovery due to political interference in tariff setting
- A new law on tariff setting for bulk and drinking water as well as collection, disposal and treatment of wastewater was recently introduced. It entitles the Water Regulator within the Energy Regulatory Commission to review the tariff proposals developed by the public utilities and municipalities. The regulatory commission will assume its activities as of September/October 2016 in municipalities of minimum 100'000 inhabitants. Until the new policy is fully implemented and enforced (new tariffs are expected by 2018; smaller municipalities will be incorporated only after 2019), cost recovery remains an issue. It also remains to be seen whether the regulatory commission will be sufficiently independent to prevent political interference.
- Currently, the costs (% of total annual household income) amount to 1.2% for drinking water and 0.5% for sanitation. 3.5% is considered a cost-recovering tariff for drinking water supply, sanitation and wastewater treatment.
- There is a need for institutional strengthening (e.g. for monitoring and sector performance evaluation) in order to enhance financial and technical sustainability of public utilities

- Currently, pressure from civil society is weak. However, both EU accession and SDG implementation provide an opportunity to strengthen civil society voice to increase pressure on decision-makers.
- A monitoring system is in place, but data is difficult to access. Monitoring on sewage and groundwater is almost inexistent
- Private sector involvement (as a provider of water and sanitation services) remains low. There is wide-spread scepticism towards private sector involvement in water and sanitation services (perceived as a threat towards water as a human right). Additionally, investors are wary of the complex institutional setup and political influence in the water sector

Macedonia and the EU

- EU accession (Macedonia has a candidate status since 2005) is of upmost priority for the government, which bares potentials (influx of significant financial resources and technical guidance) but also challenges (overriding of importance of SDGs by EU directives, neglecting of reforms on political/institutional level)
- The water law and other national water-related policies have already been harmonised with EU directives, however, implementation and enforcement levels are still low
- The EU directives demand full cost-recovery in water and sanitation services, efficiently performing utilities and enforcement of the user/polluter-pays-principle. In this way, the EU directives go even further than the SDGs.




Macedonia and the 2030 Sustainable Development Agenda

- Level of achievement of MDGs: Full achievement for access to drinking water. For access to sanitation, more efforts and funds are needed.
- There is a National Sustainable Development Strategy in place (NSSD Project Team 2008). The idea was to revise this existing strategy to adopt the 2030 Sustainable Development Agenda. However, the endeavour proved too time consuming and costly. A stand-alone SDG implementation plan 2016-2030 will be developed instead.
- The SDG implementation plan, as well as a 5-years action plan (including activities, responsibilities and budget) are in the course to be developed under the overall responsibility of the cabinet of the Vice Prime Minister in order to mainstream the 2030 agenda for sustainable development at the national level (mainstreaming of the 2030 development agenda into national, subnational and local plans as well as budget allocations). Based on the plans, the Macedonian government will integrate the SDGs into a 4-year government programme 2016-2020 and harmonise it with relevant sector strategies, plans and programmes.
- A multi-stakeholder process (including decision makers on the national, regional and local level as well as stakeholders from academia, the private sector, donor agencies, NGOs, etc.) will be launched with the support of UNDP to prioritise the SDGs, localise the targets, select local target indicators, develop a budgetary framework and review the relevant national sectoral strategies and the level of adjustment needed to align them with the SDG agenda
- The Swiss embassy will be involved in the consultation process of drafting the action plan.









Challenges and opportunities

Policy and institutional framework




- 📌 Low priority of and political interference in the water sector
- 📌 Fragmentation of the water sector
- 📌 Low political will to achieve cost-recovery
- 📌 Lack of capacities, particularly managerial skills (potentially available but not empowered)

-  Lack of access to quality, reliable, transparent data
-  Existing legal framework
-  Emerging civil society

Financing

-  Substantial resources required for reaching the remaining 10% (most vulnerable population) and the small, rural communities
-  Lack of long-term financial planning (ad hoc allocation of funds)
-  Water-related revenues not properly redistributed to water sector
-  Low political will to achieve cost-recovery
-  Challenging implementation of new tariff regulation
-  Conditions for Public Private Partnerships not mature
-  Available financial resources from the European Commission for the implementation of EU directives
-  Affordable services for general public

Technology and capacity








-  Low salaries in utilities lead to low skill and capacity levels
-  Lack of capacities particularly of managerial skills (potentially available but not empowered)
-  Good starting point on implementation for all SDG#6 targets

Water supply

SDG target 6.1: Universal and equitable access to safe and affordable drinking water for all.

- Responsibilities: The Ministry of Environment and Physical Planning (MoEPP) is responsible for policies, strategies and laws, whereas municipalities are responsible for the provision of water services. Water supply is managed by public utilities, founded, established and owned by the municipalities.
- Drinking water supply in Macedonia implies 24h, household-based access to drinking quality water from the tap.
- Water sources mainly originate from springs and surface water (rivers and lakes), and to a smaller degree from groundwater.
- Water supply (particularly in urban areas) is currently sufficient but builds on aging infrastructure
- Drinking water is affordable for most (subsidised water tariffs available for vulnerable groups in some municipalities)
- Current level of water supply coverage: rural: 60-80%, urban: 95-100%

Challenges and opportunities

-  High level of non-revenue water (due to high technical water losses and low efficiency)
-  Aging infrastructure
-  Lack of / poor operations and maintenance
-  Non-cost recovering tariffs (due to lacks in billing and collection, lack of consideration of environmental costs and amortisation, and political influence in tariff setting)
-  Substantial resources required for reaching the remaining 10% (most vulnerable population) and the small, rural communities
-  Good starting point on implementation
-  Abundance of freshwater resources

Sanitation

SDG target 6.2: access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

- Responsibilities: MoEPP is responsible for policies, strategies and laws, whereas municipalities are responsible for the provision of sanitation services. Sewage systems are managed by public utilities, founded, established and owned by the municipalities.
- Sanitation in Macedonia comprises wastewater collection (sewage systems (urban and some rural areas) or septic tanks (rural areas). Wastewater is mostly discharged untreated into rivers (see chapter on water quality)
- Newly built sewage systems require connection to a wastewater treatment plant
- Accurate data on access to sanitation not available but coverage differs significantly more between regions and along the urban-rural division than for drinking water supply
- Estimated current level of sanitation/wastewater collection coverage: rural: 20-60%, urban: 90%

Challenges and opportunities:

- 👉 Aging or altogether lacking infrastructure
- 👉 Lack of / poor operations and maintenance
- 👉 Groundwater infiltration
- 👉 Substantial resources required for reaching the remaining 10% (most vulnerable population) and the small, rural communities
- 👍 Good starting point on implementation






Water quality

SDG target 6.3: Improvement of water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials; halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

- Rivers are heavily polluted, mainly due to discharge of untreated municipal and industrial wastewater
- Lake water quality is sufficient or even good (case of Lake Ohrid) due to the law on lake protection
- There are only 7 wastewater treatment plants existing in the country, including 3 at the lake shores (Lakes Ohrid, Prespa and Dojran)
- Public awareness on water quality is increasing. Pressure from civil society on authorities to improve environmental protection is growing.
- The EU directives demand wastewater treatment service for all settlements of min. 2000 inhabitants. Over the coming 5-10 years, new wastewater treatment plants will become operational. Two plants are currently under construction and additional four are in an advanced preparatory phase for construction
- Required funds for construction of new wastewater treatment plants: 177-345 million Euro.
- The current focus lies on big cities and large infrastructure. Little attention is given to small communities and vulnerable groups. Reaching them will be a challenge
- Extension of wastewater treatment service will prompt an increase in the water tariff, which presents a challenge for enforcement. The new water tariff law (see above) is expected to resolve the issue.
- Technical support on the operation and maintenance of the new system will be required

- The new technologies must build on accurate technical considerations in order to avoid high-end solutions which are not adequate to the context.
- Current level of coverage by wastewater treatment: 15% of total population

Challenges and opportunities:




-  Lack of financial resources and political will
-  Lack of capacities to absorb available funds, staff, etc.
-  Available financial resources from the European Commission
-  Growing public awareness on water quality (i.e. in lakes) and consequently growing pressure on decision-makers
-  Planning/construction of several waste water treatment plants

Water-use efficiency and sustainable withdrawals

SDG target 6.4: Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

- Water resources in Macedonia are abundant and there is currently no high danger of water scarcity or stress.
- Future demands (2020-2040) may be difficult to meet in southern and south-eastern regions if irrigated areas are increased.
- Water losses in drinking water supply and agriculture are high (30-70% non-revenue water in drinking water supply (due to technical failure but also due to inadequate user behavior); data on losses in agriculture in open canal networks and surface irrigation are not available)
- The irrigation system covers around 120'000 ha, but only 50-60% of these areas are actually irrigated. Water-use efficiency of the irrigation technology is low (limited conversion to drip or root irrigation).
- Low water use efficiency / high water consumption by large corporations, possibly due to low tariffs (even if tariff on industrial water use is double the tariff for domestic use, it remains too low to incentivise water use efficiency or water saving)
- There is no monitoring of industrial water extraction from private boreholes as well as on the levels of recycling / closing of the water and nutrient cycle.
- Current rate of cost recovery for water and sanitation services: average at country level > 60% (but there are public utilities with around 90%).

Challenges and opportunities:

-  Positive results in reduction of water losses achieved in a few urban centres and by application of drip irrigation of apples, grape and maize
-  Low water use efficiency in drinking water provision
-  Lack of monitoring of industrial and agricultural water use efficiency







Integrated Water Resources Management

SDG target 6.5: implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

- In compliance with the EU water framework directive, Macedonia has integrated IWRM as a basic principle for water management into its water law of 2008 and has designated the river basin as the main analytical unit for water management.

- Management plans were developed for Strumica River Basin and sub-basins of lake Prespa and river Bregalnica. For river Vardar, only certain elements of a management plan were prepared. A plan for river Crn Drim will be developed soon.
- Two programmes of measures for the implementation of the water resources management plans are ongoing (one for an entire basin is ongoing for 4 years, one for a sub-basin is ongoing for 1 year)
- A national water council was established to discuss problems at highest level in the water sector. Basin-level councils have recently been established (August 2016)
- There is a lack of financial, technical and human resources as well as an inefficient institutional setting for the implementation of the water resources management plans. There is one positive example of one municipality with borders matching with the lake watershed borders that was appointed to manage the Lake; but again only successful with a donor's support (Lake Prespa, SDC support) for implementation of the management plan.
- It was possible to resolve the issue in one case by transferring the responsibilities to the riparian municipalities. This is feasible where several municipalities are involved. Where only one municipality is affected, the available resources remain insufficient.
- All surface water bodies in Macedonia are transboundary. As Macedonia lies upstream of all rivers, the neighbouring countries strongly depend on how Macedonia manages its water resources.
- The UN convention on the protection and use of transboundary water courses and international lakes was signed and ratified by Macedonia in 2015. The treaties and agreements with neighbouring countries from the Yugoslavian period are still valid, but generally not respected.
- Informal technical cooperation on transboundary water resources with Greece and Albania exists in a pragmatic approach
- The Drini Transboundary River Basin project will support the establishment of a formal national cooperation among 5 countries.
- The UN convention puts pressure on Macedonia, as the country now depends on approval of all riparian and down-stream countries on all water-management-related decisions, even if their coast line is minimal.
- The new tariff regulation will allow for cross-subsidising of IWRM activities
- Current level of IWRM implementation estimated at 20%

Challenges and opportunities:

-  Lack of financial, technical and human resources
-  Inefficient institutional setting
-  Lack of trans-boundary cooperation (only practiced on technical level)
-  No efficient river basin councils
-  Institutional framework in place
-  IWRM plans have been developed for several watersheds, IWRM plans for remaining watersheds to follow

Protection and restoration of water-related ecosystems

SDG target 6.6: protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

- MoEPP is responsible for ecosystem protection; the institutional and legal framework for ecosystem preservation is in place

- However, much remains to be done in restoration and conservation of ecosystems. Many projects that were planned from the central budget were not realised due to budget cuts.
- The basin management plans all include special measures for the protection and restoration of water-related ecosystems
- The new tariff regulation will allow for cross-subsidising of ecosystem protection and restoration activities
- Nature conservation strategy is currently prepared with Swiss support
- There are several ongoing projects in Macedonia that address issues related to conservation of ecosystems with SECO/SDC support (ecosystem restoration in Prespa Lake and Bregalnica river basin management; support of MoEPP for the preparation of a groundwater register)

Challenges and opportunities:

- 👉 Lack of baseline data on protection of ecosystems
- 👉 Lack of financial resources
- 👍 Existing legal and institutional framework
- 👍 Current situation and concrete measures for ecosystem protection and restoration known for several basins (through existing IWRM plans)

Description of the desired future state on SDG#6

Water supply

- Vision: 100% access in urban and 95% in rural areas (total 98%)
- Indicator: % of population using safely managed water services (includes management capacities of public utilities). All data on indicators shall be gender-sensitive (true for all targets on SDG#6)
- Strategic focus: maintaining current level of coverage through investments in infrastructure rehabilitation and operations and maintenance (20% of total financial and human resources for WASH). Reaching the remaining % is of second priority, which means that the notion of “universality” and “no-one left behind” will be difficult to achieve
- Required funds for full extension and rehabilitation estimated at 200 million Euro
- Target group: decision makers (national government and municipalities) regarding access to budget for construction of infrastructure and public utilities regarding implementation
- Beneficiaries: Population and civil society. All beneficiaries are equally important, as universality requests benefits for all

Sanitation

- Vision: 100% access in urban and 70% in rural areas (total 88%)
- Indicators: urban: % of population connected to safe sewage system; rural: % of population covered by safely managed sanitation services
- Strategic focus: capitalising on synergies with improvements for wastewater treatment (30% of total financial and human resources for WASH)
- Required funds for full extension and rehabilitation estimated at 326 million Euro.
- Target group: decision makers (national government and municipalities) regarding access to budget for construction of infrastructure) and public utilities regarding implementation
- Beneficiaries: Population and civil society. All beneficiaries are equally important, as universality requests benefits for all

Water quality

- Vision: 70% access to wastewater treatment in urban and rural areas

- Indicators: % of population connected to wastewater treatment (indicator adapted to Macedonian context); % of wastewater safely treated (indicator adapted to Macedonian context), % of receiving water bodies with good ambient water quality
- Strategic focus: Substantial improvements in wastewater treatment (50% of total financial and human resource for WASH), building civil society pressure to leverage actions to increase water quality
- Target group: decision makers (national government and municipalities) regarding access to budget for construction of infrastructure) and public utilities regarding implementation, population to build awareness and to increase willingness to pay for the increased tariff
- Beneficiaries: Population, civil society, nature, down-stream countries. All beneficiaries are equally important, as universality requests benefits for all

Water-use efficiency and sustainable withdrawals

- Vision: Significant increase in water-use efficiency for all uses
- Indicator: % change in water-use efficiency over time (includes aspects of water losses)
- Strategic focus: strengthening management and monitoring capacities to enforce the existing rules and regulations regarding water-use efficiency, achieving full cost-recovery and implementing water-saving technologies
- Target group: authorities, operators and users (including farmers, cooperatives etc.)

Integrated Water Resources Management

- Vision: 100% implementation of IWRM plans in all three basins; effective treaties with all neighbouring countries
- Indicator: degree of IWRM implementation
- Strategic focus: Establishing financial mechanisms for the implementation of IWRM plans, advocacy and lobbying to increase the political will
- Target group: MoEPP, Ministry of Foreign Affairs MoFA, basin authorities, intercountry-council (depending on availability of resources of neighbouring countries)

Protection and restoration of water-related ecosystems

- Vision: existing ecosystems are restored and protected
- Indicator: % change in water-related ecosystems existent over time
- Strategic focus: Restoration of rivers and wetlands (clear actions for lakes already in place)
- Target group: MoEPP

Recommended Means of Implementation

In order to address the abovementioned challenges and opportunities as well as to achieve the described vision, the present strategy recommends a set of means of implementation, embedded in two sector reforms (on national and local level) accompanied by a number of flanking measures. While the implementation of the sector reforms lies with the responsibility of the central government of Macedonia, the flanking measures shall be implemented in a multi-stakeholder approach with civil society organisations, academia, the private sector and other stakeholders.

Both sector reforms comprise a range of means of implementation relating to the improvement of policy coherence and the institutional framework; alternative financing mechanisms as well as technological approaches. The means were elaborated in group sessions based on presented practice examples and building on the participants' knowledge and experience. Additional means of implementation that were discussed during group work but not included in the final recommended implementation strategy are listed in annex I.

Water sector reform at the local level (targets 6.1 – 6.3)

Improvement of the political and institutional framework

- Reforming public utilities: Corporate development and concentration on core activities (including capacity development in management, financial planning and accountability) geared to retain water-based revenues within the utilities for O&M as well as for investments in infrastructure and services related to water and sanitation, rather than redirecting funds to other activities also covered by the utility
- Enforcing the water tariff reform: achieving full cost-recovery and implementation of the user/polluter-pays-principle
- Developing and implementing a policy on access to services for vulnerable groups

Financing mechanisms

- Introducing performance-based payments and public utilities contracts
- Investments of 826 mio. Euro (200 mio. for water supply, 326 mio. for sanitation and ~300 mio. for the construction of wastewater treatment plants)

Technology and capacity building

- Introducing storm water and wastewater separation technology
- Establishing best practices, procedures and templates for decentralised systems that are currently being constructed
- Establishing capacity building programs for the newly introduced technologies and systems, particularly in small municipalities

Flanking measures

- Conducting a large-scale public awareness-raising campaign in order to
 - increase willingness to pay
 - enhance water-use efficiency / rational use of water
- Improving (ICT-based) monitoring systems towards the development and collection of accurate and reliable data on
 - Nature and environmental conditions
 - Water uses (including industry and agriculture)
 - Effectiveness of introduced means of implementation

Water sector reform at the national level (targets 6.4 – 6.6)

Improvement of the political and institutional framework

- Institutionalising a clear-cut distribution of responsibilities in between the national level (decision making) and the local level (implementation)
- Fiscal decentralisation and long-term budget planning at central level, guaranteeing that revenues from taxes and charges in the water sector are geared towards long-term investments in the water sector and not redirected to other government priorities.
- Developing and implementing a strategy on river and wetland ecosystems protection and restoration
- Establishing and running river basin councils with consultative (not executive) authority. Representation by municipalities, irrigation, fisheries, industry, producers, etc.
- Implementing and enforcing the developed IWRM plans (MoEPP or appointed authority for management of the river/lake basin).

Financing mechanisms

- Facilitating private sector involvement (bringing together private investors and SMEs within the framework of a “hand-holding-scheme”)
- Establishing financing mechanisms for the implementation of the IWRM plans (min. 50% covered by national budget) (e.g. by accessing funds from the EU transboundary program)
- Providing farmers with access to loans and investments for new technologies

Technology and capacity building

- Introducing water- and energy-saving technologies in agriculture and major corporations (including mainstreaming of drip irrigation and introduction of the water footprint concept to enhance CSR)

Synthesis – Recommended SDG#6 Strategy for Macedonia

The following table synthesises the results of the 2016 AGUASAN workshop for Macedonia. It draws on the content of the previous chapters and consolidates it in the form of a recommended SDG#6 strategy.

Target	Current state		Vision		Strategy for implementation		
	Rate of achievement	Challenges and opportunities	Desired outcome	Indicators	Strategic focus	Target group and beneficiaries	Means of Implementation
6.1 Water Supply	Level of water supply coverage: rural: 60-80%, urban: 95-100%	<ul style="list-style-type: none"> 🚩 High level of NRW 🚩 Aging infrastructure 🚩 Lack of / poor O&M 🚩 Non-cost recovering tariffs 🚩 Substantial resources required for reaching the remaining 10% 🚩 Low political will to achieve cost-recovery 🌱 Good starting point on implementation 🌱 Abundance of freshwater resources 	100% access in urban and 95% in rural areas (total 98%)	% of population using safely managed water services	Maintaining current level of coverage through investments in infrastructure rehabilitation and operations and maintenance Second priority: reaching the remaining %	Target group: decision makers (national government and municipalities) regarding access to budget for construction of infrastructure and public utilities regarding implementation, population to build awareness and to increase willingness to pay for increased tariff Beneficiaries: Population, civil society, nature, down-stream countries. All beneficiaries are equally important, as universality requests benefits for all	<p>Water sector reform at the local level (6.1–6.3)</p> <p><i>Improvement of the political and institutional framework</i></p> <ul style="list-style-type: none"> • Public utility reform (corporate development and concentration on core activities) • Enforcement of water tariff reform (cost recovery, user/polluter-pays-principle) • Development and implementation of policy on access to services for vulnerable groups <p><i>Financing mechanisms</i></p> <ul style="list-style-type: none"> • Performance-based payments and public utilities contracts • Investment of 826 mio. Euro <p><i>Technology and capacity building</i></p> <ul style="list-style-type: none"> • Introduction of storm water and wastewater separation technology • Best practices, procedures and templates for decentralised systems • Capacity building programs for newly introduced technologies and systems
6.2 Sanitation	Level of sanitation/wastewater collection coverage (estimations): rural: 20-60%, urban: 90%	<ul style="list-style-type: none"> 🚩 Aging or altogether lacking infrastructure 🚩 Lack of / poor O&M 🚩 Groundwater infiltration 🚩 Substantial resources required for reaching the remaining 10% 🌱 Good starting point on implementation 	100% access in urban and 70% in rural areas (total 88%)	urban: % of population connected to safe sewage system; rural: % of population covered by safely managed sanitation services	Capitalising on synergies with improvements for wastewater treatment		<p>Water sector reform at the national level (6.4–6.6)</p> <p><i>Improvement of the political and institutional framework</i></p> <ul style="list-style-type: none"> • Clear-cut distribution of responsibilities between national level and local level (including establishment of Water Agency, responsible to govern water sector on operational level) • Fiscal decentralisation and long-term budget planning to direct revenues from water taxes and charges towards long-term water sector investments <p><i>Financing mechanisms</i></p> <ul style="list-style-type: none"> • Strategy on river and wetland ecosystems protection and restoration • Establishing and running river basin councils • Implementing IWRM plans <p><i>Technology and capacity building</i></p> <ul style="list-style-type: none"> • Facilitating private sector involvement (handholding between investors and SMEs) • Establishing financing mechanisms for the implementation of IWRM plans • Providing farmers with access to loans/investments <p><i>Flanking measures</i></p> <ul style="list-style-type: none"> • Large-scale public awareness-raising campaign (including in schools and kindergardens) to <ul style="list-style-type: none"> – increase willingness to pay – enhance water-use efficiency / rational use of water • Improving monitoring systems on <ul style="list-style-type: none"> – Nature and environmental conditions – Water uses (including industry and agriculture) – Effectiveness of introduced means of implementation
6.3 Water Quality	Heavy pollution of rivers Level of coverage with wastewater treatment: 15% of total population	<ul style="list-style-type: none"> 🚩 Lack of financial resources and political will 🚩 Lack of capacities to absorb available funds, staff, etc. 🌱 Available financial resources from the European Commission 🌱 Growing public awareness on water quality (i.e. in lakes) and consequently growing pressure on decision-makers 🌱 Planning/construction of several wastewater treatment plants 	70% access to wastewater treatment in urban and rural areas	% of population connected to wastewater treatment (indicator adapted to Macedonian context); % of wastewater safely treated	Substantial improvements in wastewater treatment Building civil society pressure to leverage actions to increase water quality		
6.4 Water-Use Efficiency	Rate of non-revenue water: 30-70% for drinking water (data on agricultural losses n.A.)	<ul style="list-style-type: none"> 🚩 Low water use efficiency 🚩 Lack of monitoring of industrial and agricultural water use efficiency 🌱 Positive results in reduction of water losses achieved in a few urban centres and by application of drip irrigation of apples, grape and maize 	Significant increase in water-use efficiency for all uses	% change in water-use efficiency over time	Strengthening management and monitoring capacities to enforce the existing rules and regulations regarding water-use efficiency, achieving full cost-recovery and implementing water-saving technologies	Target group: authorities, operators and users (incl. farmers, cooperatives, etc.)	
6.5 IWRM	Estimated level of IWRM implementation: 20%	<ul style="list-style-type: none"> 🚩 Lack of financial, technical and human resources 🚩 Inefficient institutional setting 🚩 Lack of trans-boundary cooperation 🚩 No efficient river basin councils 🌱 Institutional framework in place 🌱 IWRM plans have been developed for several watersheds, IWRM plans for remaining watersheds to follow 	100% implementation of IWRM plans in all three basins; effective treaties with all neighbouring countries	degree of IWRM implementation	Establishing financial mechanisms for the implementation of IWRM plans, advocacy and lobbying to increase political will for IWRM	Target group: MoEPP, MoFA, basin authorities, intercountry-council (depending on availability of resources of neighbouring countries)	
6.6 Ecosystem Restoration and Protection	Data on level of ecosystem protection n.A.	<ul style="list-style-type: none"> 🚩 Lack of baseline data on protection of ecosystems 🚩 Lack of financial resources 🌱 Existing legal and institutional framework 🌱 Current situation and concrete measures known for several basins (through existing IWRM plans) 	Existing ecosystems are restored and protected	% change in water-related ecosystems existent over time	Restoration of rivers and wetlands (clear actions for lakes already in place)	Target group: MoEPP	

References

The numbers presented in this report draw on the input presentations by the country case owners:

Dodeva S. (2016a): Country Case Macedonia. Part I. Presentation held at the 32nd AGUASAN Workshop, held in Spiez, Switzerland, June 27th to July 1st.

Dodeva S. (2016b): Country Case Macedonia. Part II. Presentation held at the 32nd AGUASAN Workshop, held in Spiez, Switzerland, June 27th to July 1st.

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Financial Aspects of Institutional Strengthening of the Water Sector in Macedonia, PointPro, November 2014

Government of the Republic of Macedonia, Ministry of Environment and Physical Planning (2010): Water Strategy for the Republic of Macedonia. Draft final version. Skopje: Ministry of Environment and Physical Planning.

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Ministry of Environment and Physical Planning (2008): National Strategy for Environmental Approximation. Skopje: Ministry of Environment and Physical Planning.

NSSD Project Team (2008): Draft Final National Strategy for Sustainable Development for the Republic of Macedonia. Part I/II. Skopje: NSSD Project Office.

Annex 1: Other discussed means of implementation

Policy, institutional framework and multi-stakeholder partnerships

Water-use efficiency and sustainable withdrawals

- Including a figure on maximum allowed water loss into the tariff / service level contract
- Incentivising innovative irrigation systems to increase water-use efficiency
- Application of 4 Rs (Reduce, reuse, recycle, restore)

Integrated Water Resources Management

- Strengthening the national water council (representation by government authorities, NGOs, river basin council and academia), institutionalising regular meetings
- Building up an inter-ministerial coordination body for issues relating to transboundary waters

Overarching

- Advocacy and lobbying for enhanced attention to the water sector on decision-making level (based on the Croatian example)
- Monetaring the water sector: Fact-based awareness raising on the costs of non-cost-recovering tariffs, lack of wastewater treatment, IWRM and ecosystem protection for the Ministry of Finance, Ministry of Environment and Physical Planning, Ministry of Transport and Communication and Ministry of Health
- Preparing the “ecosystem” for private sector involvement (e.g. in reuse and recycling) (overview of existing financial instruments, analysis of economic viability, identification of low-hanging fruits). ODA funds for preparatory studies required
- Smart stakeholder involvement
- Creation of a water agency with centralised overall water and sanitation-related responsibilities
- Establishing / strengthening public relation divisions in utilities

Financing mechanisms

Water supply, sanitation and wastewater treatment

- Mobile-based payment systems

Protection and restoration of water-related ecosystems

- Introduction of Payments for Ecosystem Services (PES)
- Introduction of green infrastructure
- Using general tax revenues for public services of wider interest and entry fees for national parks

Water-use efficiency

- Water footprint concept to incentivise water use efficiency in industry (currently low due to low tariff)

Technology

Water-use efficiency

- Capacity building on farm level

Water quality

- Complementing wastewater treatment with green infrastructure to close the financing gap (focus of small communities (< 5000 inhabitants))

Overarching

- Strengthening bio-energy to become less dependent on fossil fuels