ECCE position paper
on
Infrastructure and water management -

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European Council of Civil Engineers

The paper aspects

The paper multidimensional subject of infrastructure and water management.

It includes aspects of:
Climate change adaptation, water scarcity and droughts, sanitation, sustainable water resources management, water supply and demand management, exploitation of alternative sources of water, infrastructure asset management, water loss management in distribution networks, water pricing, public awareness, pollution control and protection of water bodies, drinking water and flood risk management.

→ Background information presented and commented
→ The position of ECCE reported.

List of themes

Executive summary
Introduction
Scope of the position paper

Fields

- Water governance
- Asset management
- Sustainable management of water
- Drinking water sources protection
- Climate change
- Water scarcity and droughts
- Flooding
- Alternative sources of water

Paper scope

Scope

- Harmonize the approach regarding the water issues within the engineering community.
- Promote the understanding and communication with other professions and sectors.

Target group of Executive summary

- Politicians

Water governance

- Water and sanitation
- Water as a human right and water as a service
- Decision making in water management
- Technocratic approach

In principle, ECCE supports that Water is not a commercial product

Fundamental human right:

- the access to water and
- the adequate supply of water and sanitation

ECCE - role and responsibility

- economics and technical solutions for a sustainable development,
- protection of water resources and water bodies.

Water governance (ctd)

Decision making in water management – political interference

- Investments – long economic and technical life span.
- well-controlled technocratic decisions
- Regulate the procedures – legislation/directives

Planning - implementation – maintenance: Think strategically, long-term frame.

Keep balance: Water as a human right Vs Water as a service.

→ Active stakeholder participation

→ Recovery of costs

→ Tools/ Incentives

Pricing policy for a scarce resource - tool in Demand Management.

Asset Management

- Infrastructure
- Efficiency of water distribution networks - Water loss management
- Intermittent Supply

“out of sight out of mind?” - Not professional

Reliable and resilient Infrastructure - provide to people the service they deserve

- Financing and funding programs.
- procedures and policies.
- Cost to rebuild is huge – associate with deterioration of human health.
- Research on materials and technologies – upgrade human health.

Commitment of Civil Engineers.
Keep people informed about infrastructure and water – transparency.
Define water infrastructure as critical.
Intermittent supply should be avoided.
Increase water consciousness.

Sustainable Management of water

- Water supply and demand management
- Water pricing policy for efficient use.
- Public Awareness and Transparency
- Monitoring and Benchmarking
- Information Management Systems
- Cooperation between authorities
- Ground water body protection and management
- Protection of water bodies

Sustainable Management of water (ctd)

Integrated approach.

Right to development and respect of environment.

Human beings at the centre of concern. Healthy and productive life.

Benchmarking of water services.

Quality of data - quality of water management.

Raise public awareness - change in mentalities.

Transfer data into public domain – convention.

Cooperation and coordination for successful protection and management of ground water.

Water professionals to inform decision-makers and the public.

Drinking water sources protection

- Restoring confidence in public water supply systems

Pollution pressures – global population, economic activity.

Ground and surface drinking water sources abandoned.

Emerging pollutants - pharmaceuticals, endocrine disruptors, etc.

→ more expensive water treatment .

Increased efforts to protect drinking water sources from pollution pressures.

Establish protection zones.

Identify and regulate/restrict potentially polluting activities.

Climate change

Uncertain climate change impact on rainfall.

- Focus adaptation efforts in No-regret Type Measures
- Reduce uncertainty - tracking of trends in environmental parameters
- Cooperation between countries/organizations - share common knowledge
- Identify and manage Risk in water sector.

Water scarcity and droughts

When developing an area, consider

- Available renewable water resources.
- Possible risks to these resources.

→ Adjust the population capacity and the requirements.

Develop Drought Management Plans - based on technical criteria, independent of political decisions

- Ongoing basis – use of indicators
- Objective - long-term rational management for
  - ✓ preventing water shortages.
  - ✓ ensuring availability of adequate water resources.

Flooding

- Flood Risk Management

Storm water is not a waste.

Dispose as a valuable resource of water.

→ Collect and reuse water at source/property level.

- Funding for infrastructure to control flooding.
- Improving resilience of rural areas.

Alternative sources of water

- Desalination
- Recycled water

Promising solution in water shortage areas.

Desalination, yes BUT

- Rational management of water.
- Consideration of production and environmental costs.

Use treated wastewater as a resource for agriculture, industry, etc.

Recharge of underground water bodies with treated waste water - provided no harm to environment and the water bodies,

To prevent any adverse impacts.

- Best practices.
- Minimum requirements.
- Research on the effects of irrigation.

Infrastructure and Water Management - Concluding

A multidimensional subject that needs the cooperation and contribution by all of us.

Water is a human right and a service at the same time.

It needs:

- the commitment and the expertise of Civil Engineers/ water professionals.
- Active participation of stakeholders.
- Transparency.

Technical support

Technical Committee

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Next steps ?

- Review
- Next Review

ECCE position paper on infrastructure and water management

Thank you for your attention

We invite everybody for action