Developed countries									
Case and region	**Issue**	**Type of tool**	**Description**	**Economic impacts**	**Benefits for the environment**	**Social /poverty alleviation impacts**	**Governance issues**	**Scaling up and relevance for developing/ transition countries**	**Problems/ challenges**
(7) Conserving and managing forests as source of water for Fukuoka City, Japan **Asia**	Watersheds / cities	Investments in the protection and improvement of biodiversity	Fukuoka City is the only major city in Japan without a large river flowing through it. It has relied on extraction from the nearby Chikugogawa River for one-third of its needs, as well as on desalination of seawater and on supplies from eight dams. However, the degradation of forests surrounding the dams began to impairing their water recharge functions, jeopardizing a key part of the city's water supply. The Fukuoka City Foundation for Water Resource Conservation Projects was established in 1997 to serve as a fund for forest conservation and management in catchments where the city's water supply originates.	The Fukuoka City Waterworks Bureau allocates JPY 1.00 per ton of water consumed in the city to the Watershed Conservation Fund. Half of this amount is derived from water-use charges and half from the city's budget. From its revenue, JPY100 million (approx. USD 1.3 million) is allocated annually for initiatives which promote forest conservation and management in watershed areas. The total fund stood at JPY 1.06 billion yen in 2009). The project fosters cooperation between local governments upstream and downstream, with conservation activities implemented jointly by Fukuoka City and municipalities in water source areas.	Fukuoka City is improving watershed forests in catchment areas near the dams developed to source drinking water only, by planting broad-leaved forests, clearing underbrush and tree thinning. For other dams, the Waterworks Bureau is engaged in efforts to purchase forests in catchment areas in order to enhance water recharge capacities and prevent water contamination from excessive development. As of fiscal year 2008, approximately 30 percent (505 hectares) of the catchment areas of the three local dams has been bought by the city. For the appropriate management of these forests, the city formulated the Fukuoka City Water Source Forest Management Plan covering 60 years in fiscal 2004.	The project also includes awareness-raising amongst the citizens of Fukuoka City about the origin of its water supply and the value of forest ecosystem services; exchange programs for citizens to participate in activities such as silvicultural management, rice planting and trout fishing in the water source areas; and offers grants for tree planting and clearing underbrush.	The initiative fosters collaboration between Fukuoka City and neighboring municipalities to implement joint conservation activities in the water source areas		

(1) ZINNAE: Zaragoza Urban Cluster for Efficient Water Use **Europe**	Cities	Water technology	The city of Zaragoza has made important collective efforts for the efficient use of water to all social sectors. The combined process of institutional and technological change and adoption has lead to the creation of specialised companies and to accumulating important experience. The city has become a space of permanent demonstration and innovation from the creation of projects related to the use of urban water. Two external global trends guarantee the timeliness of this initiative: 1. The water market is one of the first five markets of the world, with a turnover reaching US$400 billion and an annual growth rate of 7%, according to data disseminated by Watertech Online. 2. The amount of water demanded in the world will have an ongoing increase, largely due to the growth of urban population (in 2020 "over 50% of the population in developing countries will be urban").	Allow economic resource savings both to the citizens, the public administrations, big companies and consumers.	Expected: To boost efficiency and sustainability in water use and management as well as in the associated energy consumption of the city of Saragossa.	Expected: To turn the efficient use of water into a driver of quality employment for the city.	ZINNAE integrates in 2011 twenty six public and private entities which take part of the hydrological cycle management in the urban area. They are all part of the Water efficiency Sector in Zaragoza.	Both the cluster development and Waterlabs project increase the innovation potential of business sector, and identify RTD projects for Research Centers. This is relevant for developing countries in two ways: Launching Research and Technology Development projects for water solutions. Favouring the cluster working methodology which involves joining efforts between Research sector, business sector and local and regional authorities.	
(2) The remunicipalisation of Paris' water supply service **Europe** *Source: www.eaudeparis.fr/page/*	Cities	Green jobs	End of privatized water services in 2009, decision to prioritize the re-empowerment of the municipal bodies to give them a minimum control over water service provision. Since January 2010, Paris' water services provided by a single public operator – Eau de Paris A citizen's control mechanism has been introduced, enabling users to evaluate water services and providing a space for stakeholder discussion and engagement	Money reinvested in water services, with initial benefits estimated at 35 million Euros per annum The reform will remain stable at a cost below that of national average		The Parisians have regained control of their water services and introduced designated environmental, economic, democratic and social objectives	Change from private to public ownership of the Parisian water services.		
(3) Dutch agriculture and	Agriculture	Economic instruments and policies in water	• Combination of public policies and market incentives to encourage environmentally sound agriculture	The Ministry of Agriculture focuses the sector on increasing profits by marketing	Successful implementation of polices to restrict pesticide use and		A leading Government and advanced environmental regulations (often	Favorable soil conditions and geographical proximity to several EU countries	

environmental sustainability **Europe**		management	• Long history of addressing environmental impacts of agricultural intensification (e.g. pollution, ammonia emissions, pesticide use, biodiversity issues) through policies and system-wide changes • Preventative rather than 'end of pipe' approach to sustainable production • Market initiatives respond to consumer preferences to environmentally friendly products, e.g. the Horticulture Environmental Programme requires producers record their use of crop protection products, fertilizers and energy; retailers demand use of environmentally-friendly methods in primary production	new products and solving problems (e.g. environment, animal welfare) better and earlier than competitors	encourage more environmentally sustainable chemicals, e.g. the Multi Year Crop Protection Plan (1991-2000) significantly pesticide use		ahead of EU policies)	has given the Netherlands considerable comparative advantages in the EU system of free internal trade	
(4) The Ebro River Water Plan and the green economy, Spain **Europe** *Source: Zaragoza conference case study paper*	Watershed	Water Planning	The Ebro Water Plan is an opportunity to build an ethical, efficient and sustainable water management system for the Ebro River Basin Plan developed under IWRM principles Includes commitments to reduce pollution and increase water efficiency Modernization of irrigation key to reducing diffuse pollution, increasing water efficiency, increasing productivity and ensuring a better water footprint balance in Spain	Contributes to sustainable growth, strengthening the agro-food complex in the Ebro valley Strengthens role of water as a renewable energy source Encourages the inclusion of new water uses such as for recreation Reducing pollution from point sources implies creation of green jobs. Multiplied effects over the economy and significant direct, indirect and induced effects on employment.	Recovery of the good ecological status of more than 80% of the surface and ground water bodies (only two of them being in fair condition after 2015). Notable increases in water flows and chemical quality of water, insurance of ecological flows, and river restoration.	56% of investments considered in the Ebro Water Plan are for improving the environmental status of water Ambitious environmental objectives, with at least 85.3% of river water bodies to achieve good status by 2015. Opportunities for local and rural development based on the potential of improved water ecosystems for rural tourism, angling, and other recreational services.	Public participation and stakeholder involvement in the whole decision process and in the following of the IWRM Plan. Improvements in communication and transparency of water policy decisions		

(5) Netherlands tax on nutrients **Europe** *Source: AstanaECE* *http://www.economicinstruments.com/index.php/land/article/140-* *http://edepot.wur.nl/121333* *http://www.economicinstruments.com/index.php/land/article/140-* *http://www.economicinstruments.com/index.php/land/article/140-* *http://files.foes.de/de/downloads/tagungvilm2005/netherlandsstudy.pdf* *http://www.*	Agriculture	Economic instruments and policies in water management	The centrepiece of the current Dutch nutrient pollution policy is a farm-level nutrient accounting system enforced by a tax on annual net balance of nutrients in excess of a levy-free minimum. This is accompanied by a cap on manure application per hectare coupled with a system of manure trading started in 2002. The principle behind the Dutch Mineral Accounting System (MINAS) is that farmers record the amount of nitrogen and phosphorus that comes onto the farm, e.g. through feed, livestock, fodder, manure and chemical fertilizer, and the amount that leaves it in such forms as livestock, forage, manure, grain, milk and eggs. The MINAS programme sets a loss standard that represents uncontrollable nutrient loss. The farmer is charged a levy on nitrogen and phosphorus surplus in excess of this loss standard. The farmer must account for the nitrogen and phosphorus content of the inputs and outputs. The MINAS phosphorus tax currently is set at €9 per kilogram of excess phosphate. Excess nitrogen is taxed at a rate of €2.3 per kilogram.		Decrease in nitrogen and phosphorus	The taxes are viewed as substantial enough to motivate behavioural changes.	Nutrient management policy partly driven by external forces, including standards set by the EU. MINAS was introduced to ensure compliance with the EU Nitrate Directive. In 2003 the Court ruled that the Dutch government had “failed to fulfill its obligations under the Directive”. It was concluded that the loss standards under Minas were a means of control which was applied too late in the N cycle. The Nitrate Directive aimed to limit and prevent the pollution of water by N and was therefore focused on prevention i.e. combating pollution at source. The Court decided that this obligation could only be satisfied by using an application standard system. The Netherlands was fined €250 million and ordered to replace Minas in 2006 with a system based on application standards for manure and total N fertilisation on farms in line with the Nitrate		Disadvantage of the obligatory minerals accounting system is that it is rather complicated and that it causes a heavy administrative burden - manure that is disposed of must be sampled and weighed. Furthermore when the minerals accounting system was introduced it emerged that checks on accounting had not been properly structured.

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(1) City-wide sustainability plan: PlaNYC in United States of America **North America**	Cities	Green jobs	• On Earth Day, April 22, 2007, New York City released PlaNYC, its far-reaching sustainability plan including 127 policy initiatives to achieve ten overarching goals to improve the infrastructure, environment, and quality of life in the city. • The plan aims to double the number of green jobs in 10 years, improve access to education, information, and coordination needed by workers and businesses to facilitate growth in the green economy, promote skill development to ensure New Yorkers meet requirements for green jobs, and increase demand for green products and services. • Various portions of the plan involve cleaning up brownfields (heavily polluted former industrial sites), encouraging public transportation, ferries and bicycling; creating more parks and playgrounds; planting one million trees within the five boroughs; reducing emissions in public buildings; and retrofitting or replacing diesel trucks. • Additionally, the plan also calls for enhancement of public transportation and water infrastructure security. Since the release of the plan, the City has made great strides towards implementing the plan – passing groundbreaking green buildings legislation, creating miles of bike lanes, opening acres of open space, cleaning the air, and reducing greenhouse gas emissions.	Education and skills training for green jobs. Increased market opportunities for green industries.	Project improvements in outdoor and indoor air quality and associated human health benefits. Expected reductions in greenhouse gas emissions from reduced vehicle traffic, support for biking and walking paths, improved buildings emissions standards, and creation of more green space.		Adjustments to city planning and zoning codes. Establishment of congestion pricing Establishment of efficiency standards for buildings		
(1) Trading	Watershe	Economic	Water trading has increased with	Water trade has	Through the	Water trade has	A new Water Act in	Relevance for	High administrative

and step by step legal reform on water use rights in the Murray-Darling Basin **Australia** *Source: http://www2.mdbc.gov.au/nrm/water_issues/water_trade.html*	d/agriculture/cities	instruments and policies in water management	increasing water scarcity problems Two elements of success: decoupling water rights from land rights and making water rights proportional shares of available resources rather than fixed volumes	enabled irrigators to respond flexibly to drought and other external factors, reducing the economic impact of low water allocations on business Enables water to be traded from low to high value uses	"Restoring the Balance" program, the Federal Government has allocated $3.1b for purchasing water entitlements and $5.8b for recovering water through infrastructure investments, to restore water to the environment	enabled governments and utilities to purchase water to ensure water security for urban citizens, including during critical drought periods	2007 established an independent Murray-Darling Basin Authority with the functions and powers to manage the entire basin's water resources The Act will ensure water security for urban communities and environmentally sustainable level of water for rivers in the basin, taking into account likely climate change scenarios	managing water in a context of climate change and variability, managing water scarcity	requirements There is no single register with timely trade data Trade can affect the spatial characteristics of water use, storage and delivery, which may result in channel capacity, water and land quality issues Current limit on the level of permanent trade permitted out of area