

Water management in developing countries Policy and priorities for EU development cooperation



1. INTRODUCTION. WATER RESOURCES CHALLENGES

1.1 The freshwater situation in developing countries

Freshwater is a finite and precious resource that is essential for sustaining life. Water is needed in all aspects of life. A general goal is to make certain that adequate supplies of water of good quality be made available for all people, the ones living today and future generations, while preserving required quantity and quality of water flow to sustain crucial functions of ecosystems.

As demand increases, water resources are becoming increasingly scarce. Population growth, economic development and changing trade policies are the main driving forces behind increasing demand and need for water¹. Water use has been growing at more than twice the rate of the population increase during this century. By 2025, as much as two thirds of the World's population could be living in countries subject to water stress, a majority of them in developing countries². In many developing countries water availability is subject to large seasonal or inter-annual fluctuations.

Water is essential for health and necessary for the production of food, economic growth and the support of the environment. Water is used in households, industries and agriculture but also for energy, transport and recreation. The World's by far largest water using sector is agriculture. In developing countries irrigation accounts for approximately 80%, compared with 10 % for domestic uses. Although the trends are no longer in favour of large scale irrigated agriculture, water for food provision is crucial.

The fulfilment of poor people's water-related needs is fundamental to the elimination of poverty. Access to water and sanitation is a fundamental need for the poor, vital for their health and dignity and a key factor in improving economic productivity, therefore an essential component of efforts to alleviate poverty. At the beginning of 2000, 1.1 billion people (17% of the world's population) were without access to safe water supply and 2.4 billion people (40% of the world's population) lacked access to adequate sanitation. The majority of these people live in Africa and Asia. (Global Assessment) The poor are often the ones who have to pay the highest price for accessing a water of lower quality. Poverty eradication is central in EC Development Policy³ and within the Cotonou Agreement⁴, and a strong focus on water issues is needed.

Growing urbanisation, in particularly in developing countries, is increasing demand for water. Only 18 % of the low-income residents in the developing world have a household connected water supply. Those without access to safe water supply must buy from vendors at much higher costs than the piped city

¹ Ibid.

² (E/CN.17/1997/9) UN/SEI: Comprehensive Assessment of the Freshwater Resources of the World.

³ Communication (Programme of Action to Strengthen the Commission's Capacity to Address the Objective of Poverty Reduction in the EC Development Policy). Draft/6 February 2001.

⁴ APC/EU Partnership Agreement, signed at Cotonou on 23 June 2000.

supply⁵. It is also estimated that only 8 % of the low-income dwellers have a house sewer connection. The main parts of those low-income dwellers are living in sub-urban areas.

In the developing world more than 90 % of sewage water is discharged directly into rivers, lakes and coastal waters without any kind of treatment. The ongoing depletion of water quality is having consequences not only on human but also on environmental health. The environmental concern for water is a pre-requisite for sustainable use, which was recognised in Agenda 21⁶.

In many developing countries water resources are shared between different uses or populations groups within a country or between countries. The upstream - downstream water sharing challenge is growing and in several regions it is increasingly necessary to include conflict prevention measures. In many semi-arid or arid countries the main water source is a transboundary resource, a river system, a lake or a groundwater aquifer. Today there are 261 river basins crossing the political boundaries of two or more countries. They cover 45.3% of the land surface of the earth, account for approximately 80% of global river run off, and affect about 40% of the population on earth.⁷ Water resources development and pollution of these river basins together with disparities between the riparian countries in economic development, institutional and infrastructural capacity or political orientation is often creating a tension.

An EC water and development strategy needs to take all these aspects into account - within an Integrated Water Resources Management framework.

1.2 The international debate

The value of water and water management have been central issues in the international debate throughout the last two decades. Meeting basic needs for water and sanitation was an important target during the International Drinking Water Supply and Sanitation Decade 1980-90, although still far from being achieved. At the Dublin Conference in 1992 it was recognised that managing water as an economic good is important to achieve efficient and equitable use of water⁸ (*box with Dublin Principles ?*). This issue is still debated, in particular with respect to valuing competing uses of water, sectoral or national as well as transboundary competition.

At the Dublin Conference as well in the Rio-process, women's participation in water management as well as the principle that water should be managed at the lowest appropriate level were recognised. In Rio the satisfaction of basic (human) needs and safeguarding of ecosystems were considered as priorities in developing and using water resources. The necessity of applying an integrated approach to water resources management and the need for strategies of environmentally sound management of freshwater, including improvement of water quality was recognised at the Rio-conference⁹ and was also addressed at the 2nd World Water Forum¹⁰.

It is recognised in the ministerial declaration of The Hague conference (*box ?*) as one of the main challenges to achieve water security¹¹. A Vision for water life and the environment, and a Framework for Action were presented in The Hague.

The Water Supply and Sanitation Collaborative Council¹² raised, at the Iguacu Forum in November 2000, the importance of advocacy and communication and of building alliances amongst people and

⁵ World Resources 1996-97. The Urban Environment.

⁶ Communication (COM(2000)212)

⁷ Aaron T Wolf: Criteria for equitable allocations. the hearth of international water conflict. *Natural Resources Forum 23 No 1(1999) p 3-30*

⁸ International Conference on Water and the Environment, Dublin, January 1992.

⁹ Agenda 21. Paragraph 18.38.f

¹⁰ 2nd World Water Forum, The Hague, March 2000.

¹¹ 2nd World Water Forum, The Hague, March 2000.

institutions and promoted to put a special focus on the basic need for Hygiene and Environmental Sanitation.

Innovative Strategies for Water and Sanitation for the Poor is one of the Themes at the International Conference on Freshwater, to be held in Bonn, December 2001. Other themes at the Bonn-meeting concerns Competing Water Uses: Water for Food/Agriculture and Water for Nature, Transboundary Water Issues and Prevention and Management of Floods and Droughts. And all of them are crucial parts of an integrated approach to water.

1.3 International targets

Water supply : Addressing the world's water resources situation in its Millenium Declaration, the UN General Assembly pledged that by 2015 the number of people unable to reach or afford safe drinking water would be halved.

Sanitation . there is no internationally agreed target for sanitation. At The Hague's World Water Forum, the following target statement was agreed : "to reduce by half the proportion of people not having access to hygienic sanitation facilities by 2015.

Water resources management : The Millenium Declaration stated also that unsustainable exploitation of water resources would be stopped by developing water management strategies at regional, national and local levels. These strategies would promote both equitable access and adequate supplies. Drawing from International Development Targets on sustainable development, a specific target for water resources management is to have comprehensive policies and strategies for integrated water resources management in the process of implementation in all countries by 2005.

¹² Action Programme agreed at the Fifth Global Forum of the Water Supply and Sanitation Collaborative Council, Iguacu, Brazil, November 2000.

2.1 THE FRAMEWORK FOR EC DEVELOPMENT COOPERATION

2.1.1 Focus areas and guiding principles

The focus of EC support to water issues in developing countries has evolved during the last few years, to a large extent as a consequence of the international debate leading to a change in approaches taken by partner developing countries for management of their water resources and services.

The overall assistance to water related projects was earlier concentrated in water supply, in particular through technical solutions. Since the Rio- and Dublin-processes a more integrated approach towards sustainable water resources management began to be applied. This evolution is clearly visible in the Guidelines for Water Resources Development Co-operation published by the EC in 1998¹³. The centrepiece of these guidelines is a "strategic approach for the equitable, efficient and sustainable management of water resources".

Projects are progressively applying much more of a "water-cycle" perspective. Instead of large technical supply-based projects, projects of today have stronger environmental as well as social concerns. And the "river basin"- or "aquifer"- approach is increasingly being applied in particular in projects in water scarce areas with shared water resources. Support has also increased for education, training and capacity building, including in water management, for support to institution strengthening and for political involvement and commitment.

Four Focus areas for EC-supported water-related activities were defined in the Guidelines for Water Resources Development Co-operation. They can be grouped into two main categories within the overarching policy framework of Integrated Water Resources Management (IWRM):

- **Water resources management**

IWRM - Cross sectoral coordination with other development sectors : In addition to its importance for human survival and well-being, water is a basic ingredient in many productive and non-productive activities. As already outlined, there are many cross-sectoral considerations to be taken into account, and there is a need to apply an integrated approach when indicating the policy priorities to focus on. When growing and incompatible sectoral demands claim for more water, choices will have to be made in terms of how should the water withdrawn be allocated between different sectoral uses, including for food security, industries and energy, environment etc. Such allocation challenge is particularly pertinent in areas where the overall availability is poor. It could be choices between major urban centres including the peri-urban areas and the surrounding agricultural lands and wetland ecosystems. It must be handled through a combination of regulatory measures and managing principles.¹⁴ This implies in particular moving towards pricing water services to reflect the cost of their provision. Effective systems to assess the value of water are necessary, in order to balance economic efficiency against social equity or environmental sustainability.

Water resources management- a tool for conflict prevention, including the transboundary context
Competition over shared resources, in particular water, can be a root cause to social, economic and political tension. This is particularly true in a water scarce region, whether within a country where sectors or different population groups may have competing interest, or between countries in an upstream/downstream position. Surface water resources are derived from rivers which may originate outside national and state boundaries; even within countries, river basins rarely correspond to existing

¹³ The EC Guidelines for water resources development co-operation: Towards sustainable water resources management. A Strategic Approach. Published 1998 by DG Development and DG External Relations and North-South Co-operation.

¹⁴ Ibid.

administrative boundaries. Similarly, groundwater extraction does not occur tidily: its beneath- and above-ground impacts are not confined to particular administrative localities.

The Focus Area dealing with "Water Resources Assessment and Planning" allows for special attention to be given to macro-planning of water resources management. Activities are mainly designed to develop and support a co-ordinated strategy on the use of water resources, with the main purpose to ensure sustainable development in all water-related sectors within a country and in a transboundary context, and in so doing, help to avoid or resolve conflicts of interest over allocations of water between stakeholders.

As part of cross-sectoral coordination the Focus Area on "Agricultural water use and management" has to be addressed. Management system needs to integrate land and water management - '*a land use decision is also a water decision*' - to ensure long-term food security for the poor.

Water-related implications for conservation and sustainable management of the environment need to be integrated in the cross-sectoral coordination. The protection of environmental or ecological needs, often remote from project locations, can be neglected unless an overall perspective is applied.

- **Water supply and sanitation**

Activities dealing with the provision of water supply and sanitation services may be divided in two categories, allowing programming and activities with similar social, economic and technological characteristics to be grouped together.

Basic water supply and sanitation covers programmes and projects which have to do with the extension of water supply and excreta disposal services to unserved and underserved populations in low-income communities, including both rural and poor urban settings where small-scale installations are managed and operated on a local basis. Although rural areas have also suffered from neglect, activities launched during and since the International Water Decade of the 1980s have produced a significant improvement in coverage rates, at least as far as drinking water supplies are concerned. Despite a lot of efforts, the sanitation coverage has declined and as a result more policy attention is now being given to waste disposal, especially in densely-settled low-income areas. The importance of gaining community participation and ownership to ensure O&M and cost recovery has led to innovatory approaches for management of community-based service schemes.

As urbanisation, in particularly migration to peri-urban regions of the big cities and to small towns, is growing in ACP and ALA-MED regions, urban water supply and sanitation is a growing problem that needs to be addressed : Municipal water and wastewater services covers major urban and industrial installations and systems, including water supplies, wastewater treatment and sewerage, undertaken within the municipal area, usually under the auspices of the Municipal Authorities.

A special attention needs to be given to the *peri-urban context* : As a population group, the urban poor is the fastest growing in the world. The risks to their own health, and of the spread of communicable disease to other neighbourhoods, posed by their crowded, insanitary habitat is extremely high. The major public works with which municipal authorities are mainly pre-occupied in the water, sewerage and urban drainage context rarely provide service outreach to slum and shantytown areas. Thus, even where levels of urban coverage appear high, the figures may mask the fact that coverage in marginal communities is inadequate or non-existent.

Guiding Principles : Guidelines for Water Sector Development Co-operation

To raise efficiency in water-related support, the EC developed a sectoral approach, which is set out in the "Guidelines for Water Sector Development Co-operation" to be used by EC staff and partner governments, institutions and other professionals associated to the Commission in water-related activities. The guidelines were developed in consultation with the Member States and published in 1998. With the objective of managing water resources equitably, efficiently and sustainably, Guiding Principles are defined in different categories : institutional and management, social, economic and financial, environmental, information, education and communications, and technological¹⁵.

These principles includes the following (*detailed list in box or annex ?*):

- ◆ "Roles of government and official bodies at all levels should be clearly defined and areas of responsibility officially established. The structure and systems of management should be designed in such a way as to facilitate involvement by the responsible authorities at different levels. Involvement of user organisations and the private sector should be encouraged. Ongoing capacity building is needed within institutions and for the participant groups at all levels. Management systems should be transparent and accountable and appropriate management information systems should be established.
- ◆ A sufficient supply of water and an adequate means of sanitation are basic human needs to which everyone should have access. Users have an important role to play and their involvement should be fostered via a participatory approach. Gender implications should be examined and taken into account at all stages of the planning and implementation process.
- ◆ Water has an economic value and should be recognised as an economic good. Charging tariffs for water services is an important component of any strategy for sustainability. 'Demand management' should be used in conjunction with supply provision.
- ◆ Water-related activities should aim to enhance or to cause least detrimental effect on the natural environment and its health and life-giving properties. The allocation and consumption of water for environmental purposes should be recognised and given appropriate emphasis. Environmental change should be monitored so that improvements can be encouraged and detrimental impacts minimised.
- ◆ A sound information and knowledge base is needed for effective actions within all water-related activities. Education is a vital component of water-related schemes if health and life enhancement are to be achieved and sustained. Communication and awareness building are essential ingredients in all forms of water resources management.
- ◆ A balanced approach towards 'hardware' and 'software' components of projects should be adopted. Choice of technology should be governed by considerations of its efficiency, appropriateness, cost, and sustainability for local conditions."

These principles, and the tools given for their application, are to a large extent guiding water projects in countries and regions where EC is providing support. Some principles need to receive special emphasis, such as the integration between land and water, integration within the river basin between the upstream and downstream areas, integration between water quantity and water quality aspects, and integration between social and environmental aspects. The study commissioned by the European Parliament in 2000 is giving recommendations in that direction, which are taken into account in the present document¹⁶.

¹⁵ EC Development: Guidelines for water resources development co-operation. Towards sustainable water resources management. A Strategic Approach

¹⁶ European Parliament. DG for Research (2000): Water and Development in the Developing Countries. DEVE 100 EN.

2.4 WATER AS PART OF REGIONAL WORKING POLICIES - ALLOCATION OF FINANCIAL RESOURCES

Allocation of financial resources

The European Commission operates its programme of development co-operation alongside those of EU Member States and with their support. Co-operation is provided in the form of direct grants based on partnership agreements with recipient countries. The EC is the major single donor in grant financing, through resources from the European Development Fund, EDF, from the ECs budget and from own resources of the European Investment Bank, EIB. Any finance cooperation shall be implemented on the basis of and be consistent with the development objectives, strategies and priorities established by the recipient country be it to a government body, to local authorities or to a non-state actor^{17,18}. EC is the world's fifth largest aid donor, contributed 1997 12.2% of all aid disbursed by the OECD countries. Together the assistance provided by EC and the EU Member States accounted for 55.3% of world aid in 1997¹⁹.

Water as part of regional working policies

There are some commonalities between water-related policies and activities in the different regions but there are of course also discrepancies, depending on regional conditions and legal agreements. Poverty eradication is the key theme in the new EC Development Policy²⁰, a centrepiece in the Cotonou Agreement²¹, and is becoming more apparent in all regions where EC is providing development aid.

EC development cooperation is organised on a regional basis. DG DEV is in charge of overall policy and strategic guidance. The EC's grouping of recipient countries does not match those established by other international bodies or used by other donors; their basis is mainly historical, depending on links created by EU members with specific countries in the pre-independence past. Within the EC, responsibility for programming and managing development co-operation is divided between DG DEV (the Africa, Caribbean and Pacific programme, which is financed by the European Development Fund) and DG RELEX covering the Southern Mediterranean, Middle and Near East, Latin America and South and South-east Asia, Eastern Europe and the former USSR; EuropeAid is in charge of project implementation in all regions)

Regional policies in ACP countries.

Water is an important sector of cooperation programmes in ACP countries; it amounts to an average of 3 to 5% of programmable aid throughout the European Development Funds. Water supply and sanitation projects remain the major activity supported by Ec in rural and urban areas, including small towns. The strategy has turned from technical projects towards more management-oriented support programmes with a capacity development component. Like it is the case in South Africa, EC support takes more and more the form of 'sector-support programmes' in association with other donors. Support is also given at the regional level, like in providing water by using solar energy throughout the Sahel.

Activities carried out in the framework of NGO cofinancing, micro-projects and decentralised cooperation as well as in humanitarian aid.

Water resources management has gained more importance. Specific projects are addressing this aspect through river basin management, such as the establishment of the Zambeze water authority in Mozambique, and the installation of 'Hydrological Cycle Observing System' in SADC and IGAD regions.

¹⁷ ACP-EU Partnership Agreement, Cotonou, Part four, development finance cooperation.

¹⁸ Draft Chapter: From programming guidelines for the 9th EDF, Chapter 11 The new actors in the partnership.

¹⁹ Aidan Cox and Jenny Chapman. The European Community External Cooperation Programmes. Policies, Management and Distribution. Overseas Development Institute, London 1999.

²⁰ COM(2000)212

²¹ ACP-EU Partnership Agreement signed in Cotonou on 23 June 2000.

The Cotonou Agreement provides the legal framework for a comprehensive twenty year partnership between 77 ACP countries, the 15 EU Member States and the Commission, encompassing trade, political relations and development cooperation. This ACP-EU Partnership Agreement²² has as its main objective to eradicate poverty, be consistent with the objectives of sustainable development, and the gradual integration of the ACP countries in the world economy. Good governance and a participatory approach are fundamental elements. For countries that are in the process of developing or have developed PRSPs, the programming for 9th EDF is embedded on this process. It may imply moving towards sector-support programmes

Water relates to many dimensions of the Cotonou Agreement :

- ◆ Economic development: Sustainable development of water resources and fisheries ;
- ◆ Social and human development: Increasing the security of household water and improving access to safe water and adequate sanitation is seen as important within the social sector development ;
- ◆ Regional integration: Water resources management is considered an area for regional cooperation by helping to promote and develop regional political dialogue in areas of conflict prevention and resolution; and
- ◆ Water has a link with the thematic and cross-cutting issues: gender, environment and natural resources, and institutional development and capacity building.

Water issues are not specifically mentioned linked to health aspects and food security. It is therefore essential to make sure that water aspects being integrated wherever necessary.

Decentralised cooperation; cooperation with non-state actors and NGOs. Important reforms in structural adjustment, democratisation, decentralisation, etc. were introduced during the 1980ths. They redefined the role of governments and the involvement of other stakeholders such as civil society, the private sector, local governments etc. The EC has identified a need to involve non-state stakeholders more closely in the process by giving them a role in decision-making and implementation, thereby applying a bottom-up approach. Principles and components of such decentralised cooperation are to : actively involve all the various groups of stakeholders, seek consultation and complementarity between stakeholders; decentralised management; introducing a "process" approach; and give priority to capacity building and institutional development²³. The ACP-EU Partnership Agreement²⁴ emphasises the complementary roles and contributions of State and non-state actors in the development process, including their contribution to poverty reduction strategies. Non-state actors comprise private sector, economic and social partners and civil society (including human rights group, women's associations, environmental movements, indigenous peoples and their associations, NGOs etc.). There need to be *rules and mechanisms* established for securing of such participation but these need to be flexible to be adapted to the specific realities of each partner country. These principles adhere closely to the Dublin water principle²⁵ that water should be managed at the "lowest appropriate level".

Development co-operation with other regions (contributions are still expected)

Regional water policies in ALA Countries. In Asia the focus in projects has changed from large irrigating agriculture projects to water management projects. In these also components of good governance may be integrated, which for instance is the case for some projects in Bangladesh. In Latin American *water* has never been a priority sector as such. There were and are, however, interventions in two main areas: social and economic (including regional co-operation and integration and thematic and crosscutting issues). In the social area the EC finances water supply and sanitation projects, in Bolivia, Nicaragua, Paraguay aimed to support the poorest populations (poverty alleviation).

²² ACP-EU Partnership Agreement signed in Cotonou on 23 June 2000, is succeeding a period of 25 years of cooperation under the Lomé Conventions.

²³ A4(00)D/1424. Note: Support for decentralised cooperation. Operational Guide to decentralised cooperation.

²⁴ ACP-EU Partnership Agreement signed in Cotonou 23 June 2000.

²⁵ International Conference on Water and the Environment, Dublin, January 1992.

Other water supply and sanitation projects already completed were implemented in El Salvador, Colombia and Honduras. These projects include(d) infrastructure, institutional strengthening and training, with an emphasis towards water management. Pricing of water as part of the policy framework is sometimes difficult to apply in some poor areas where people live in a daily income of less than 1 € (for instance in Bolivia). In the economic area, there are some projects in South America (Bolivia, Paraguay, Uruguay, Brazil and Argentina) in the interface transport - water - development, at national and regional (transboundary) level including the main rivers - Uruguay, Paraguay, Parana, Pilcomayo, aimed to ameliorate river navigability and flood control. Between 1990 and 97 the EC has financed a major project, in Peru and Bolivia, which result was the management plan for the Titicaca, Desaguadero, Poopo and Salar basin. In this same area, and in a smaller scale, the EC has financed in Costa Rica, the management plan for the Torres and Tarcoles rivers. Between 1990 and 2000 the EC has financed several projects, in Bolivia (Santa Cruz, Montero, Santa Ana ...) which objective was to prevent these cities from being flooded. There are some new projects in preparation aimed to ameliorate the management of river basin, in order to avoid flood catastrophes and to ameliorate rural production and water management.

The EC provided no development co-operation to Asia and Latin America (ALA) until the late 1970s. The European Council Regulation of 1981, revised and strengthened in 1992, is the official basis for budgetary allocations to ALA. Development co-operation with ALA is thus relatively recent. The level of commitments has grown from ECU 2.4bn (1986-90) to ECU 4.4 billion (1991-95, just over 13% of the total for this period). This is modest for the size of the region and amounts to only one third of resources allocated to the ACP countries. The main focus of water-related development activity in Asia has been irrigated agriculture and flood control. In Latin America, water-related activity includes water supply and sanitation, wastewater treatment, and irrigation. Framework Agreements are negotiated on an annual basis with ALA countries and these form the basis for action.

Regional water policies in MEDA/MENA Countries.

Projects in the region imply either support at a technical level or on a political level or both. In a recent study²⁶ it is suggested that EC at technical level in the region should: assist the countries in analysing their own needs and water resources concerning surface water, groundwater and aquifers, and wastewater; persuade the partners how shortfall is to be addressed (in association with EIB and the World Bank); promotion of wastewater treatment and water recycling techniques; financing research on desalination and wastewater recycling; training of decision making personnel; raising public awareness, including of wastewater treatment and recycling; creation of networks of know-how; financing of water actions in individual Mediterranean countries in accordance with specific conditions; and assistance to water privatisation studies and transition management.

On a political level reconciliation of divergences between the countries in the specific region on the use of Nile water, over Mesopotamian water resources, water supply (e.g. desalination) inside or outside the Peace Process, on perceptions of aquifer sharing and desalination requirements among the North African countries. It is also suggested to maintain a Euro-Mediterranean Water Forum involving the Water Directors of the countries of the Euro-Mediterranean Partnership. To meeting these goals a long term co-ordination and cooperation is needed.

In the 1990s EC co-operation with the southern Mediterranean countries and the Middle East increased significantly. A new regional Mediterranean Policy was adopted and the level of co-operation increased from ECU 1.8 bn (1986-90) to ECU 4.1 bn (1991-95, just over 12% of the total for this period). Co-operation in municipal water and wastewater treatment is important in this region.

Eastern Europe and Central Asia

²⁶ AIDCO/B. Internal Working Policy Document. Water policy in the Mediterranean/MENA region (Middle East/North Africa).

In the late 1980s, as the Cold War came to an end, the EC became a major donor to the Central and Eastern Europe and the Newly Independent States of the former Soviet Union (CEES/NIS) through the PHARE and TACIS programmes respectively and several budget lines. This region is of significant strategic importance to Europe and the volume of co-operation grew rapidly to ECU 9.7 billion during 1991–95 (29% of the total EC co-operation in that period). The EC contribution together with bilateral assistance from member countries accounts for 70% of all co-operation in this region.

2.1.4 Lessons of Experience

Experience gained from the large numbers of projects supported by the EC throughout the different aid programmes - the majority being in rural and urban water supply and sanitation, with an increasing number addressing the wider water resources management context - were taken into account in the preparation of the "Guidelines for water resources development cooperation". Evaluations are regularly carried out, to assess relevance, efficiency, effectiveness, impact, sustainability and replicability. A special attention is given to financial and economic analysis. The introduction of the project cycle management framework has increased project consistency from programming to evaluation. Main lessons of experience from water related projects as reported are:

- ◆ the need for an integrated approach;
- ◆ the need for stakeholder involvement, at all levels of responsibility and at all stages of project conception and implementation;
- ◆ the need for capacity building, in particular for sustainable management of resources, services and schemes;
- ◆ the need for women's participation and attention of gender aspects,
- ◆ the need for awareness of social and environmental needs and impacts and their costs.

Box ? :

An evaluation of rural water supply and sanitation (WSS) projects in West Africa has highlighted :

- the need to clearly identify the beneficiaries and their problems;
- long-term mobilisation of the communities is a question of organisation as much as financial contribution;
- the need to design systems meeting real needs and capacities, including financial, of the users to maintain and manage, building on their knowledge and experience;
- if quantitative aspects are usually properly addressed, more attention is to be given to qualitative issues;
- most WSS projects have a health improvement objective, but sanitation and water quality aspects are often neglected : sensitisation and capacity building must include these aspects, in collaboration with health actors;
- projects must look at long-term financial and managerial structures to ensure post-project sustainability.

The evaluation of an urban water supply project has drawn the following lessons and recommendations :

- the need to support water sector reforms, in a coordinated manner, between donors;
- if the intended health objective is to be achieved, sensitisation activities must be undertaken;
- the question of affordability must be addressed
- consumer surveys should be undertaken so that the optimum extension programme can be planned, in particular to reach the poorest sections of the peri-urban population;
- the need for water quality monitoring.

Evaluation conclusions were drawn IRC on Integrated Water Resources Management in water and sanitation projects²⁷ in Africa, Asia and South America. Since these concern the focus of EC activities, they are bringing also useful lessons of experience. Some of their conclusions are that:

- ◆ Water source and catchment conservation gains recognition but requires further work.

²⁷ Integrated water resources management in water and sanitation projects. Lessons from projects in Africa, Asia and South America. IRC OP31E.

- ◆ True stakeholder involvement in water allocation decision making remains limited.
- ◆ The framework to allow management at the lowest appropriate level is often not available
- ◆ Capacity building is promoted but not at all levels.
- ◆ Stakeholder involvement is growing but is still too limited and too narrow in focus.
- ◆ Efficient water use is gaining attention but requires much more emphasis
- ◆ Water is increasingly viewed as having an economic and social value.
- ◆ Striking a gender balance often is taken as enhancing women's involvement.

A wider spectrum of project evaluations needs to be used to be able to provide a good base of project experiences. This is true when it comes to projects directed towards pollution abatement as to secure a good water quality, which is an area where the experience so far is low. An other important area, increasingly being subject to attention by EC is transboundary waters - conflicts and cooperation, where experiences would be of utmost importance to draw on.

2.2 WATER AS A COMPONENT OF EC DEVELOPMENT PRIORITIES

The treaty establishing the European Community states that the Community policy in the sphere of development cooperation shall foster " the sustainable economic and social development of the developing countries, and more particularly the most disadvantaged among them; the smooth and gradual integration of the developing countries into the world economy; the campaign against poverty in the developing countries."²⁸ This sets the framework for the EC development cooperation policy, which shall be coordinated with that of the Member states. EC co-operation has evolved over the 30 years since the Treaty of Rome embodied the principle of co-operation through partnership with Sub-Saharan African, Caribbean and Pacific (ACP) countries.

EC Development Policy is grounded on the principle of sustainable, equitable and participatory human and social development, its main objective being to reduce poverty, which entails support for sustainable economic, social and environmental development, promotion of the gradual integration of the developing countries into the world economy and a determination to combat inequality.

Poverty is defined as "the lack of access to education, health, natural resources, employment, land and credit, political participation, services and infrastructure"²⁹. Poverty is defined not simply as the lack of income and financial resources but also as encompassing the notion of vulnerability and such factors as no access to adequate food supplies, education and health, natural resources and drinking water, land, employment and credit facilities, information and political involvement, services and infrastructure. All of these are needed to enable disadvantaged peoples to have control over their development, enjoy equality of opportunity and live in a safer environment. EC development policy must, therefore, support poverty reduction strategies which embrace these various dimensions and are aimed at consolidating the democratic process, peace and the prevention of conflict, the development of social policies, the integration of social and environmental aims in macro-economic reform programmes, respect for equality between men and women, the reform or introduction of an appropriate institutional framework, the strengthening of public and private sector capabilities and natural disaster preparedness.

This introduction from the EC Development Policy Statement shows how much poverty-related problems in developing countries are complex and multidimensional. As access to water plays a fundamental role in most of those dimensions, potential synergies between poverty reduction and sustained access to safe water are to be highlighted. Management of water could also play a key role in the integrated approach that is needed in a development policy that fosters poverty reduction. Water as a social, economic and environmental good, all important aspects in a poverty reduction strategy should thus be seen as a *cross-sectoral issue to be mainstreamed into most development activities*.

Water is in many ways relevant to the thematic priorities and cross-cutting issues of the EC Development Policy³⁰. As freshwater is a key resource for human survival and development, it is important to recognise where and how the Water and Development Policy is and should be integrated into these EC priorities.

Regional Integration and Co-operation.

Regional integration and cooperation is more than a political and trade issue. It provides opportunities to improve the sustainable management of natural resources on which poor people, including indigenous people, may be particularly dependent for their sustainable development. Transboundary cooperation over scarce water resources, whether a river system, a lake or a groundwater aquifer are increasingly important in many developing regions of the world with growing population and changing consumption patterns. Water use is also resulting in degraded water quality and in tense situations, particularly in the upstream-downstream perspective.

²⁸ Treaty establishing the European Community, Title XX, Development Cooperation, Article 177, paragraph 1.

²⁹ Ibid

³⁰ COM(2000)212

A challenge in sharing water resources is to *prevent conflict* and to promote peaceful co-operation between different interests, be it in a region within a country or in a transboundary context. As was recognised by the ministers at the World Water Forum in The Hague this would entail the need to "develop synergies between different uses of water at all levels, whenever possible, within and, in the case of transboundary water resources, between states concerned, through sustainable river basin management or other appropriate approaches"³¹.

The Communication on conflict prevention (11 April 2001) recommends EC support, "where a clear commitment to regional collaboration exists, to regional actions aiming at a fair management of shared water resources".

Social Sector Programmes.

The EC Development Policy recognises that "the development of social policies such as health, food security, education and training as well as *access to and sustainable management of water resources*, are of utmost importance"³² and that social sector policies must aim at widening that access.

Macroeconomic reform must be designed in a comprehensive fashion to ensure sustainable and accessible social services, and to ensure that the benefits of growth policies are distributed equitably and that resources are managed sustainably, avoiding adverse social and environmental impacts.

Access to safe water and sanitation is a key issue for human survival and health. The concept of "water security", in which meeting basic needs is an essential factor, was emphasised by the World Water Forum in The Hague³³. Access to safe drinking water and sanitation, at an affordable price, and the reduction of water contamination entails basic questions of equity and social justice as well as responsibilities for all users. In pursuing the poverty eradication aspect linked to improved access to safe water and sanitation, the EC could make substantial contributions in its development programmes.

Water supply and sanitation are closely inter-related with health and education. Poverty leads to poor health outcomes³⁴. Key factors associated with poverty are determinants of ill health and malnutrition, such as lack of access to clean water and sanitation, food insecurity and poor household caring practices, all of them linked to water management. Health projects would benefit substantially from more attention to sanitation and hygiene, in complement to water supply, as prerequisites for a healthy life. However, there is no simple relationship between water quality and disease burden since also other factors such as general environmental conditions, nutritional level, and individuals' susceptibility are of importance.

Safe water supply and sanitation, and child nutrition are important issues in improved education for the poor. Awareness building and education on water use and management are important including at the school level.

If the rural context is specifically addressed as a thematic priority, it is important to highlight the growing numbers of urban inhabitants living in absolute poverty and lacking basic services. Poor sanitation together with inadequate access to water of safe quality poses severe health hazards to people and to the environment. The effects are particularly detrimental to the poor strata of the urban population, living mostly in sub-urban areas.

Rural development and food security.

³¹ 2nd World Water Forum, The Hague, March 2000. Ministerial Declaration on Water Security in the 21st Century.

³² COM(2000)212

³³ Second World Water Forum, The Hague, March 2000.

³⁴ EC/DG Development: Health, Aids and Population Programming Guidelines (draft)

Integrated Water (and Land) Resources Management is key to water (and food) security, particularly in areas with competing interests in water resources. As food production remains the main economic activity of a large part of the population of developing countries, mainly undertaken within the rural areas, the instability of the natural and economic environment is a permanent threat to the livelihood of rural dwellers; the poor in the rural areas are more at risk of being unable to meet their vital needs, and rural areas are particularly sensitive to lack of water and of water of acceptable quality³⁵. In most developing countries rural economic growth is a critical precondition for overall economic growth and the products that will give economic yield are mainly natural resource-based goods, e.g. agricultural, animal husbandry or fishery products, which all require a sustainable management of the water resources.

An integrated land and water resources management at national level implies developing local pattern for providing for food to local population; or it could imply to secure economic preconditions to import food. The EC Development Policy³⁶ recognises that food security often needs to be ensured through a regional rather than a national framework for production and distribution, which can be seen as a transition from food self-reliance to a regional food security. From a water perspective this may entail imported, "virtual" water. (The high value cash crops that are exported are requiring less water than the - larger quantity of -low value staple food that is imported in exchange. "Virtual" water is thus imported.)

Food production as part of an integrated land and water resources management perspective calls for improved water use efficiency in agriculture, which can reduce the pressure on freshwater resources. Water use efficiency could also in small scale farming systems be achieved through different technologies such as rain-water harvesting or small scale drip irrigation systems, particularly suitable in poor water scarce areas.

These different perspectives on water and food security in a rural environment are relevant for the EC Development Policies for Rural Development and Food Security.

Institutional Capacity Building, Good Governance and the Rule of Law.

Institutional support and capacity building are needed in applying an integrated water management approach, particularly in a long-term perspective. The need is recognised for coherent national, regional and international policies to overcome fragmentation, and for transparent and accountable institutions at all levels to be able to achieve Integrated Water Resources Management.

Examples of institutions where support could promote water access within an integrated perspective, as well as contribute to poverty reduction and to conflict prevention, are River Basin Organisations. At local level, water users' associations or informal institutions, working towards making better use of water contribute to water security and to poverty alleviation. In low-income areas this is likely to be through community-based organisations.

Political responsibility and good governance. It is an important challenge "to ensure good governance, so that the involvement of the public and the interest of all stakeholders are included in the management of water resources"³⁷. Strategies for ensuring poverty reduction must, to be truly effective, be fully "owned" by the governments and civil society and based on a commitment for good governance. Part of such strategies needs to be equitable allocation of water and the safe-guarding of health and well-being through access to acceptable sanitation.

As part of the thematic priorities, water should also be seen in the context of :

³⁵ European Policy to Support Rural Development. Policy Orientation Paper. DG Development - Rural Development and Food Security, February 2000.

³⁶ COM(2000)212 p 27

³⁷ 2nd World Water Forum, The Hague, March 2001. Ministerial Declaration on Water Security in the 21st Century.

Trade and Development : Many of the poor countries are also water scarce countries. These countries may no longer find it feasible or at all possible to mobilise a sufficient amount of water needed for growing an increasing amount of food, and may instead turn to importing food. However, in a water and development context, the sustainability of relying on food imports will depend on socio-economic capabilities at all levels of society. For resource poor rural communities in water scarce areas food security may be best promoted in strategically shifting or diversifying production systems; a shift which generally does not entail an increase in water requirements (per cropped land unit).

Transport Transport is an important sector for EC support in particular in ACP countries, where the major focus is on roads. In the NIS regions, however, investments have been directed towards maritime co-operation³⁸. In low deltaic areas or coastal zones, or riverine forested areas, waterborne transport systems may be the best or only solution.

It is necessary to integrate waterway transport into an integrated water resources management, and sustainable transport policies must include land and water use planning.

Cross-Cutting Issues

Gender balance. "Gender inequality hinders growth, poverty reduction and progress in health and education"³⁹. As women in many developing countries are the ones providing for household water and food security, it is particularly important to involve them at all decision-making levels, to build participatory structures and gender equity. The central role that women play in the provision, management and safeguarding of water was recognised in one of the Dublin principles⁴⁰. The EC programme of action on mainstreaming gender equity should include water security when addressing the root causes of gender inequality.

Environment and sustainable development. Water plays a central role in ecosystem maintenance, and it is an essential natural resource. The first Dublin principle⁴¹ recognised that water is a finite resource. It is also recognised that environmental investments, such as improved land and water management, investments in sanitation, waste management and clean air, often yield high rates of economic and social return as well as being examples of a sustainable use of resources. Neglect of environmental threats may in the medium- and long-term not only undermine the efforts to reduce poverty but even lead to increased poverty.⁴² Improved environmental management can minimise negative environmental impacts from economic development, in particular if the poor participate in decision-making⁴³.

Access to **energy** services is of importance to poor people and could imply a pressure on water quantity and quality. On the other hand, energy is important for water pumping, as well as desalination, with a growing use of renewable sources of energy, such as solar energy. Hydropower installations often require development of damming systems for which a water resources management system needs to be developed. Due to socio-environmental impact, the tendency is to move away from large dams, but small and medium hydropower systems are often offering a sustainable solution to energy needs.

In relation with **industrial** water use, a pollution prevention and abatement policy needs to be developed within the country or region.

³⁸ COM(2000)422.

³⁹ COM(2000)212

⁴⁰ International Conference on Water and Environment, January 1992, Dublin.

⁴¹ International Conference on Water and Environment, January 1992, Dublin

⁴² Communication: Integrating the Environment into EC Economic and Development Co-operation

⁴³ See also UNDP/EC Poverty and Environment Initiative: *Attacking Poverty while Improving the Environment: Towards Win-Win Policy Options*. New York, 2000.

Research needs sustained attention in contributing towards poverty alleviation including water security. Such policy would need to foster co-operation and an integrated and inter-disciplinary approach. It should support inter-state, inter-regional and cross-border co-operation. This may include promotion of networks and environmental cooperation, and be targeted towards long-range sustainable development in a region.

2.3 The programming process

The Poverty Reduction Strategy Papers and country strategies.

In the process of reaching a framework for mainstreaming poverty reduction in Government and donor policies, Poverty Reduction Strategy Papers, (PRSPs) are established. The framework is one in which Governments are to take the lead in developing policies that they clearly own and which have wide acceptance throughout society. by following a participatory process by all stakeholders, including civil society and donors. Consequently, the role of donors, including the EC, is to support the partner countries to identify and implement their own development strategy for poverty reduction. Efforts are made to promote coherence, ownership, commitment and participation; analysis of poverty strategies which draw on the assessments made by poor people; integration between the social, economic and environmental pillars of sustainable development.

PRSPs are important instruments for guiding EC Development Assistance in this process⁴⁴, by providing a strategic framework, tailored to individual country circumstances. They analyse the nature of poverty, define key targets for poverty reduction, set out a policy framework including macro-economic, structural, social, institutional and sector policies that are to be implemented and a budget framework in which policies will be implemented⁴⁵

Four key aspects of social policy have been identified, in which water issues would be of importance: Achieving universal access to basic social services; Enabling all men and women to achieve sustainable livelihoods; Promoting systems of social protection against shocks; and Fostering social integration. Policy conditions should include important actions in social or governance reform in addition to the traditional focus on economic policy. The process towards the PRSPs favours donor co-ordination. There are strong arguments in favour of long term general budget support, including in the context of sector wide approaches.

The EC is in a process of developing a Programme of Action to Strengthen the Commission's Capacity to Address the Objective of Poverty Reduction in the EC Development Policy, including water supply and sanitation as a basic social service.⁴⁶

Targets and Indicators

Key indicators have to be identified to relate national performance to the international development goals for poverty reduction; intermediate indicators have to be set within PRSPs and country strategies

Within PRSPs the Commission focus on poverty reduction related performance has to be measured through indicator. Performance indicators are to be based on nationally available data and experience, and on international development goals and indicators. Coordination is needed on poverty result monitoring methodologies and indicators.

⁴⁴ DEV/B - BP D(2000)no 11434. Notes on Poverty Reduction Strategy Papers

⁴⁵ B2(00) D/4371. Poverty Reduction Strategy Papers: Guidance Notes

⁴⁶ COMM, DRAFT/ 6 February 2001

3. WATER IN THE DEVELOPMENT POLICIES OF EU MEMBER STATES AND INTERNATIONAL ORGANISATIONS

3.1 EU Member States

Not all the EU Member States are active in development cooperation directed towards water issues. For some water may be an integral part of country cooperation, where no specific water related policy exists, such as the *Portuguese* development cooperation towards Mozambique. For other EU countries, such as *Finland*, it may come in under the sector budget for health assistance or for education. Several of the EU Member States are though putting an emphasis on water related issues in their development cooperation. These include to various extents *Austria, Denmark, France, Germany, Ireland, The Netherlands, Sweden and United Kingdom*. Of course, the different Member States have their own strategy founded in their respectively agreed policy. But the similarities in the policy frameworks are important.

Even though meeting basic need in securing access to safe drinking water and secure sanitation is still a priority in the countries' development policy this is seen within an integrated water resources management perspective. And the tendency in the different strategies has changed direction from technical solutions towards much more management directed ones with an emphasis towards long-term sustainable development. This is for all the Member States seen as a very important component in eradicating poverty, poverty being not just lack of financial means but lack of means for a sustainable livelihood. Integrated Water Resources Management is thus a key framework for most of the EU Member States in their water development assistance. In that several of them are recognising the shifting roles and want to recognise cooperation of all stakeholders in a public-private-partnership. In such partnership the member states want to recognise the gender aspect.

An other aspect that is common to the different Member States water policies is the strong emphasis on awareness raising and capacity building, again a trend shift from technical capacity development towards a more inclusive managerial capacity development. Some countries are favouring new and alternative technologies such as rain-water harvesting and ecological sanitation. There is still, however, a tendency to concentrate on managing water quantity and less concentration on water quality, and on end-of-pipe solutions such as water treatment instead of pollution abatement. Most Member States development programmes show a tendency to move towards a sector-support programme approach. Summaries of the Member States water policies are found in the annex, and detailed policy documents are included in the list in annex.

3.2 International organisations and new partners

The EC is co-operating with several international organisations and it is important that the EC is making use of the complementarity they can offer, particularly when that can have synergetic effects.

There are many international organisations active in water-related development cooperation, most of them being interesting partners for the EC in this field; some have a broad mandate, many have a more specialised focus⁴⁷. The Commission is now acting towards a closer collaboration and a partnership with the UN system in the field of development⁴⁸. In this, water issues should play a role.

- UNDP carries out strategic work in linking water poverty, governance, environment and gender as well as in capacity building.
- UNICEF and WHO are both working in water supply and sanitation.

⁴⁷ See compilation by G. Björklund: UN and freshwater resources, a brief survey of facts and links. (<http://www.gwpforum.org/UNSYNOPSIS.htm>) 1999. Published by the Global Water Partnership.

⁴⁸ Communication from the Commission on "Building an effective partnership with the United Nations in the field of Development and Humanitarian Affairs" (2 May 2001).

- Within the agriculture sector, FAO has a water division whose goal is to promote efficient use and conservation of water resources to achieve food security, sustainable agriculture and rural development. The organisation has a focus on 'more crop for the drop' - irrigation methods for higher water productivity.
- UNCHS (Habitat) is a key organisation in Urban Management. For instance they have launched a programme "Managing Water for African Cities, directed to mega-cities and their peri-urban areas .
- WMO (managing HYCOS - Hydrological Cycle Observing System), and UNEP are other UN organisations dealing with water issues.
- The World Bank has redirected its focus towards poverty eradicating. Co-operation between EC and World Bank is mainly based on the country owned PRSPs, where water should in many cases be a major issue.

World Bank is most active in dealing with international, transboundary waters from the perspective of conflict prevention. A regional example is the Nile Basin Initiative.

- The Global Environment Facility, GEF, is a World Bank/UNDP/UNEP supported facility, where one of the focal areas is International Waters. Example of a large GEF-project, where EC is a co-operating partner is the Aral Sea project.

Other partners

The Water Supply and Sanitation Collaborative Council, where several EU members states are active members, is the main international forum addressing issues of water, sanitation and hygiene. The Water Supply and Sanitation Programme is also a key partner in this sector. An African initiative that the EC is supporting is the Water Utility Partnership.

The Global Water Partnership, GWP, was initiated in 1996 to respond to the necessity for coordination in applying an integrated approach to water resources management ⁴⁹. The GWP is an international network open to all organisations involved in water resources management and works mainly through associated programmes and regional networks. The World Water Council is behind the organisation of the successive World Water Fora.

Partnership needs also to include NGOs, private sector, professional associations, research institutes

3.3 Coordination and complementarity

In accordance with the EC Treaty, coordination and complementarity of EC and EU Member States development policies and activities are an important element aiming to make the contribution of EU development cooperation to the progress of partner countries more effective. Overall aid coordination is the primary task and responsibility of partner governments. Clear strategies elaborated by partner countries are the ideal framework for reaching complementarity. Their capacity must therefore be strengthened to perform this leading role.

Enhanced co-ordination and complementarity aims at a more sustainable use of limited resources by avoiding unnecessary duplication and make use of a synergistic effect in different areas of expertise. By sharing lessons, unnecessary mistakes may be avoided. Collaboration and enhanced cooperation between

⁴⁹ Global Water Partnership, GWP, is an international network open to all organisations involved in water resources management, including developed and developing country government institutions, professional associations, NGOs and the private sector. Among the partners are several belonging to EU member states and APC, ALA and MED/MENA countries. The network is contributing towards pulling together resources.

the EC and other international actors could also result in enhanced confidence building between stakeholders or riparians in projects on transboundary rivers, lakes or aquifers.

Coordination takes place at country level, between the Commission, EU Member States and other donors. At headquarters level, channels have been developed for regular dialogue with EU Member States, as well as the World Bank, UN agencies and specialised institutions and networks.

Regular Expert Group meetings are held with Member States, to share policy, practice and operational guidelines, to determine a coordinated European approach, linked to achievement of the international development goals.

International coordination in the water sector takes place in particular for water supply and sanitation in the framework of the Collaborative Council; for cross-sectoral water resources management issues the Global Water Partnership has progressively taken a prominent role, particularly in its networking in development regions, and with civil society and the private sector. Events such as successive World Water Fora and water components of the work of the Commission on Sustainable Development constitute additional opportunities for coordination at the global level.

Role of the EC (comparative advantages)

The Community has three principle means of action to pursue its objectives in the field of development - political dialogue, development cooperation and trade⁵⁰. The application of these means are mutually reinforcing and should be used to pursue the water policy of the Commission and strengthen its work towards water security with its partners in developing countries.

Within the EC's policy mandate for poverty eradication an improved water (and food) security for the poor plays a major role. The EC is the major single donor in grant financing. It has thus in collaboration with the EU Member States the remit and resources to make a significant contribution to global efforts to water security.

As it was the case for the development of the "EC Water Guidelines", the Commission's water policy work is undertaken in close collaboration with the Member States, thereby increasing coherence and complementarity of policies and priorities and co-ordination of activities.

Regional cooperation is a main focus of EC development aid. Taking account of relevant expertise in developing water management policies within the EU, it could make a significant impact in supporting IWRM at the regional level, including in cases where it also addresses conflict prevention concerns.

⁵⁰ COM(2000)212.

4. THE WAY FORWARD

4.1 Political message to guide the way forward

The goal for an EC water and development policy is to promote strategies directed towards sustainable management of water resources, within the overarching objective of poverty alleviation. Such strategies need to take their point of departure in *integrated management of different demands and supply*. A question that requires particular attention is the need for strategic activities aiming at *pollution abatement*.⁵¹ Declining water quality and increasing water pollution exacerbates the need in urban as well as rural areas to address the causes, not just mitigate the effects, thus support should be directed towards pollution abatement and not towards curing measures. These are key issues in an integrated management.

The EC Guidelines for water resources development cooperation had identified a number of actions implied by adopting the strategic approach developed in the Guidelines : institutional development and capacity building; participatory approaches and gender equity; expansion of the knowledge base; demand management and pricing; awareness-building and communication.

The Framework for Action presented at the World Water Forum of The Hague highlighted several areas where further action is required, in mobilising political will, in making water governance effective, in generating water wisdom and in tackling urgent water priorities : protecting and restoring water resources and ecosystems; achieving water-food security; extending sanitation coverage and hygiene education; meeting the challenge of urbanisation; improving the management of floods.

All these priority themes, including priorities at regional and global level, are addressed in this chapter by developing key messages on the way forward in relation with cross-cutting aspects and for every focal area of activity. There is a need for **political commitment** for the EC and partner governments to be able to adopt such a strategy and policy, and for **Endorsement of Guiding Principles** based on those established in the EC Guidelines and the "Dublin-principles". These principles would guide the development assistance directed towards water and development based on this EC water and development policy.

4.1.1. Emphasis and coherence is required for water in EC development priorities.

- Transboundary water management is a crucial part in the context of *regional integration and cooperation*, with the objective to foster conflict prevention and promote peaceful cooperation between different interest.
- Access to water supply and sanitation as a *basic social service* and a key element in *poverty alleviation*
- *Rural development and food security* require stronger coordination to ensure development of products that will give higher economic yield. Such development as well as development of different small-scale farming systems would require a sustainable management of the water resources.
- *Capacity building, including institutional capacity* are key issues in the water sector.
- There is a need to integrate water and development issues including their environmental effects in *trade and development* issues. Import of "virtual" water may be crucial in water scarce areas in order to ensure food security.

⁵¹ *Pollution abatement* will secure continued use of water sources. Society is to return used water of at least the same quality as it originally had. Industries may recycle water and use it more efficiently. Leakage of nutrients and pesticides from agricultural fields can be reduced dramatically by changed agriculture methods etc. The precautionary and polluters pay principles should be applied. Legal frameworks should institute incentives that make the environmental degradation costs or debts visible (Discussions at Stockholm Water Symposium, 2000).

4.1.2. Integrated Water Resources Management, applied in a river basin approach, is a pre-requisite for any water-related intervention.

An **Integrated Water Resources Management** needs to be the framework for successful application of EC development policies. Applying an integrated approach to water resources management implies collaboration and partnerships at all levels. Coherent policies need to overcome fragmentation, whether at regional, national or local and at cross-sectoral levels. "Integrated water resources management, including the integration of land- and water-related aspects, should be carried out at the level of catchment basin or sub-basin"⁵² as was indicated at UNCED. At a minimum in countries where water is key, the EC should ensure river basin or catchment based management plans are developed. Water projects should be consistent with these plans, or include assistance for their establishment if they do not exist, to ensure best use of social, financial and water resources. The policy would foster possibilities to reach *water security*⁵³ by supporting the developing countries to develop their own strategy. Crucial in the integrated framework is the approach to freshwater and groundwater, to water quality and quantity within river basins that is presented in the EU Water Framework Directive, agreed in 2000. Identifying and implementing the right combination of supply-based and demand-based measures (e.g. pricing) for achieving policy objectives in the most cost-effective manner is very important.

An integrated water resources framework policy should include the following pillars:

1. Ensuring the supply to the public, especially the poorest, of sufficient *drinking water of good quality and adequate sanitation*, with the general objective of improving people's quality of life and particularly their health and hygiene,
2. The regional perspective of sustainable and equitable *transboundary water resources management* taking into account all relevant interests and integrating the various uses including that of different riparians
3. *Cross-sectoral coordination of different water uses*, including to ensure water for food security particularly for the poor and vulnerable, in rural as well as urban areas, water for the environment, energy, industry, transport, tourism etc., while addressing provisions for a gender balance.

4.1.3. An effective and transparent process is required for developing and implementing water related interventions.

Such a process would aim at improved "water governance" and be based on the following:

1. *Awareness raising* of all stakeholders participating in programmes has to ensure that they recognise the values of water and economic, social, cultural, health and environmental benefits of managing water effectively and the measures needed to achieve better management. The people affected, as well as decision-makers, need to understand the threats to freshwater resources and the consequences of irresponsible and unsafe water behaviour to water users and custodians. Creation of

⁵² UNCED, Agenda 21, paragraph 18.9.

⁵³ "*Water security*" should according to the Working paper on "Water and Development in the Developing Countries. European Parliament DEVE 100 EN be translated as:

"to *secure water* for drinking and for food production,

to *overcome vulnerability* to droughts and floods and to depletion, and

to *overcome threats* from pollution, salinisation, economic driving forces, globalisation and from conflicting interests that may be expressed by stakeholders/riparians - all in harmony with nature and the demand of vital ecosystems".

At The Hague Conference, March 2000 "*Water security*" was identified as "at any level from the household to the global, means that every person has access to enough water at affordable cost to lead a clean healthy and productive life, while ensuring that the natural environment is protected and enhanced."

societal norms supporting sustainable water management is vital in order to socially adapt to a changing situation. Users need to understand that a right to use water does also imply responsibilities for its sustainable use as well as its reuse⁵⁴. Policy makers should be made aware of the need to give priority to water demand management as supply driven management and service provision tend to enhance inequity, and thus exacerbate the adverse situation for the poor. There is a need to target messages, to share information and to provide education and training including at schools. Such information, education and training need to include knowledge of the processes governing the system. Communication of experience should therefore be favoured, including through different kinds of networks, gender groups, resource centra etc. This is also a prerequisite for transboundary collaboration

2. *Balanced partnership.* All stakeholders, including women, need to participate in project development and implementation and to commit themselves to poverty reduction strategies, including ensuring water security, in a framework of balanced partnership. Ownership of strategies by the partner countries is key to the success of development policies. In that context, the most wide-ranging participation of all segments of society, including economic and social actors, civil society and private sector is needed.
3. *Coordination with bi-lateral and multilateral donors and international organisations on water programmes, both regional and international programmes.*
 - Continuing informal EC/EU Member States Water Expert Group inter alia on integrating water into EC development policy and cooperation with developing countries. Sharing of analytical work, including on lessons learnt in the interface of poverty and all aspects of water and development.
 - Strengthening co-ordination in cooperation with the developing country partners in integrating water priorities into the preparation of the PRSPs and other country and sectoral strategies
 - Continue work with UNDP, WHO, UNICEF, Water Supply and Sanitation Collaborative Council and other partners on drinking water supply and sanitation.
 - Intensify work with FAO, the World Bank, and International Fund for Agricultural Development, IFAD and other partners on water and food security.
 - Examine collaboration with the World Bank, and other donors to support riparian countries in their work to collaborate on managing of shared waters. This could be done within the framework of regional River Basin Organisations.
 - Enhance work in collaboration with other parties to support Integrated Water Resources Management, such as the Global Water Partnership, particularly in its networking in development country regions, and with civil society and the private sector.
 - Explore new possibilities for enhanced cooperation with professional associations and NGOs by a continuous dialogue to ensure the participatory approach.
 - To enhance cooperation and its synergistic effects the EC should play an active role and strengthen the role of EU water development experts in the work towards the World Summit on Sustainable Development, 2002, including in its preparatory process, in the work of the Commission on Sustainable Development, and in the 3rd World Water Forum 2003 process.

⁵⁴ This is in accordance with Principle 4 of the Rio declaration, 1992: " In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and can not be seen in isolation from it. "

4.1.2. Integrated Water Resources Management, applied in a river basin approach, is a pre-requisite for any water-related intervention.

An **Integrated Water Resources Management** needs to be the framework for successful application of EC development policies. Applying an integrated approach to water resources management implies collaboration and partnerships at all levels. Coherent policies need to overcome fragmentation, whether at regional, national or local and at cross-sectoral levels. "Integrated water resources management, including the integration of land- and water-related aspects, should be carried out at the level of catchment basin or sub-basin"⁵² as was indicated at UNCED. At a minimum in countries where water is key, the EC should ensure river basin or catchment based management plans are developed. Water projects should be consistent with these plans, or include assistance for their establishment if they do not exist, to ensure best use of social, financial and water resources. The policy would foster possibilities to reach *water security*⁵³ by supporting the developing countries to develop their own strategy. Crucial in the integrated framework is the approach to freshwater and groundwater, to water quality and quantity within river basins that is presented in the EU Water Framework Directive, agreed in 2000. Identifying and implementing the right combination of supply-based and demand-based measures (e.g. pricing) for achieving policy objectives in the most cost-effective manner is very important.

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4.1.3. An effective and transparent process is required for developing and implementing water related interventions.

Such a process would aim at improved "water governance" and be based on the following:

1. *Awareness raising* of all stakeholders participating in programmes has to ensure that they recognise the values of water and economic, social, cultural, health and environmental benefits of managing water effectively and the measures needed to achieve better management. The people affected, as well as decision-makers, need to understand the threats to freshwater resources and the consequences of irresponsible and unsafe water behaviour to water users and custodians. Creation of

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⁵³ "*Water security*" should according to the Working paper on "Water and Development in the Developing Countries. European Parliament DEVE 100 EN be translated as:

"to *secure water* for drinking and for food production, to *overcome vulnerability* to droughts and floods and to depletion, and to *overcome threats* from pollution, salinisation, economic driving forces, globalisation and from conflicting interests that may be expressed by stakeholders/riparians - all in harmony with nature and the demand of vital ecosystems".

At The Hague Conference, March 2000 "*Water security*" was identified as "at any level from the household to the global, means that every person has access to enough water at affordable cost to lead a clean healthy and productive life, while ensuring that the natural environment is protected and enhanced."

4.1.4. Institutional strengthening and management

As it is the case for most development activities, the success of policies, programmes, projects and services depends heavily on the capacity, resources and expertise of responsible institutions. The institution can be formal such as a river basin organisation, at international or national level or a local government or at lower level more informal ones such as water users' associations and "river parliaments". Whether or not the institution is functioning efficiently may be dependent on its administrative and regulatory or where appropriate, legislative framework. In such framework should best possible use of water be ensured, that is efficient, equitable and environmentally sustainable, while also meeting with the objective to ensure better living conditions for the poor. The capacity of such institutions may need to be enhanced by means of human resources development and training and improvement of capacity for networking etc.

Key areas where support is needed in order for partner countries to translate their water related policies and strategies into practices include capabilities to apply appropriate management strategies at all management levels and to link management and actions for all the different EC focal areas at national, regional and global level.

Expansion of management capability should include strategies to manage water in a way that reflects economic, social, environmental and cultural values for all its uses, while taking into account the need for equity and the basic needs of the poor and the vulnerable. It should also ensure good governance, so that the involvement of the public and the interests of all stakeholders, including both women and men, are included in the management of water resources.

The need for management at the lowest appropriate level is being increasingly recognised and needs to be supported. Real participation only takes place when stakeholders are part of the decision-making process, and when the roles of the different actors are defined. Participation is more than information or consultation, it includes taking responsibility, realising that all parties may have to sacrifice some desires for the common good. Participation and management at the lowest appropriate level implies pursuing an appropriate balance between a top-down and a bottom-up approach. Some decisions should be taken at the household or village level while other needs to be taken at an international river-basin level.

Capacity building in water resources management (building on EU experience)

- Related to transboundary issues, integrated water resources management and integrated river basin planning but also for cross-sectoral water resources planning and management there is a need to strengthen exchange of experiences and links between European actors and developing countries actors. In this sharing of experiences on the EC Water Framework Directives with developing countries in specific fora needs to be ensured.

- The EC could use its experience by promoting regional "support-groups" where relevant knowledge in a region exists or be promoted through EC experience. Such "support-groups" could serve as a platform where, upon request, exchange of experience could assist countries including towards an improved governance system. In the transboundary perspective development of centres of excellence in Integrated Water Resources Management could be developed, supported by EC.

4.1.5 In a situation where increasing demand is exceeding existing supply, demand management, accompanied by water pricing strategies needs to be applied.

In this situation it is an important and challenging task to reduce the demand while increasing output per unit of water, to produce more out of comparatively less. This include valuing water for all its uses, and to move towards pricing water services and pricing of degradation of water quality to reflect the cost of their provision and reclamation. Appropriate solutions have to be developed for a developing country to adopt demand management and at the same time meet the basic needs of the poor and vulnerable groups

of the society. Today, pricing in development projects is considered mainly in its financial dimension only, i.e. which price level is required for covering the costs. Pricing for water services that better account for the environment should be promoted and build on: (i) a wider application of pricing structures that provide incentives to reduce water use/limit pollution; (ii) a more systematic promotion of water meters; (iii) the assessment of major environmental costs resulting from current uses, and whenever possible the integration of these costs into prices; (iv) a transparent policy development process with the participation of users/consumers; (v) a phased implementation of new pricing policies.

Countries should concentrate on improving effective and efficient use of existing water sources and reuse of used water. New solutions will be emerging when the starting point is changed from searching for virgin sources to taking care of the water we already command. Environmental security can be ensured by not returning polluted water. Rain-fed agriculture may face inevitable water shortage, while industry and households usually encounter man-made water shortage due to discharge without reuse of the used water. The same applies to nutrients. The emerging water-demand approach needs to be complemented by a reuse approach.

From management in a situation of comparatively easy access to water resources towards complex management of increasing demand. As a result of democratic trends and a general desire for improvements in living conditions, the demand for water is on increase practically all over the world. Many countries - if not all - would thus try to climb a "management ladder".

1. When the demand and competition is low, i.e. when access is comparatively easy, the cost is low and the technical and institutional system is comparatively simple.
2. Higher demand (more people per flow unit) will initially result in technical arrangements to augment supply, i.e. a supply management stage.
3. Still further increases in demand would lead to inter-sectoral competition and an environmental concern. These management challenges can not be handled through technical means alone. In most countries demand management strategy needs to be applied.
4. Gradually a "best possible use" of water becomes inevitable where institutional arrangements are fundamental in addition to the technical, supply oriented management.

Many of the developing countries are now climbing the "management ladder" in attempts to develop an integrated approach. The need for capacity support to be able to develop and apply to this situation is obvious. In this there is a need to develop expertise on analysing factors that influence the demand for water and the consequences of degraded water quality by pollution.

4.1.6. In the long term expanded knowledge base through research needs to be better focused on key priorities for development.

- The knowledge base has to be expanded so that all stakeholders will gain what is needed for him or her to conduct his/her role in a sustainable management of the water resources, from farm and household-level to transboundary basin level.
- There is a need for an integrated approach to be applied when extending the knowledge base and decide the research priorities. Such approach should be the framework for research programmes and would foster poverty alleviation.
- Expanded knowledge base and basic research of relevance should be transformed into applied research in developing countries. Such research should include research in order to expand the knowledge base on
 - water resources availability: surface and groundwater including water to be reused;
 - soil water and evaporating losses, water use by vegetation;
 - water pollution and its impact on users and the organisms and the ecosystems that they make up;
 - water use and services by ecosystems;
 - water needs and demands for domestic use, agriculture and for other productive sectors, such as energy and industry, for urban use, etc.;

- performance by water-related services including different types of sanitary services;
- water values for its different uses and the role of economics in the development of river basins; and
- processes behind and implications of floods and droughts.

Expanded knowledge should be ensured through policy research, systems research and technology research.

- There is a need to strengthen networks of researchers and policy makers from both EU and developing countries.

4.2 Linking political message and EC Water and Development Focal Areas

4.2.1 Linking management and actions - the national perspective: Water supply and sanitation, water for food, water for the environment, etc.

Any kind of actions taken to meet the challenges in reaching water security, be it on national or local level, must be based within a sustainable management framework. For such a framework, and the actions within it, to be effective and to meet the objectives, of which poverty eradication is a key one, collaboration is crucial. Such collaboration should be based on partnerships and synergies among the governments, citizens and other stakeholders, including both men and women. In collaborative management Public-Private Partnership may be an option, particularly in making water supply and sanitation services more efficient and cost-effective. Various models for such partnership are outlined in the EC Guidelines for water resources development cooperation.⁵⁵

An expansion of the capacity for an integrated water resources management is needed in order to

- secure water for people and secure safe sanitation systems and hygiene;
- secure water for food production;
- protect vital ecosystems to secure their survival and ecosystem services;
- ensure pollution abatement;
- meet the challenges of an increasing urbanisation;
- develop other job creating activities for instance by securing water for industry and energy purposes;
- deal with variability of water in time and space including managing floods and droughts and mitigating their effects;
- manage the continuum between river basins and the coastal and marine systems;

This should be done including by forging the political will to act; and ensuring collaboration across sectors and boundaries.⁵⁶

Water for people : ensuring access to safe water and sanitation systems and to hygiene is fulfilling basic human needs.

The Water Decade was a universal manifestation to link policies in meeting basic human needs for water with actions, but the targets are still far from reached. Managing water to meet human basic needs should include measures to minimise unaccounted-for water, increase water saving devices, reuse of water and also to ensure a fair pricing of water services. Such water pricing policy should ensure meeting the needs of poor people, who are often the ones paying the highest prices for water.

Access to water and sanitation must be seen as a prerequisite to health programmes. General hygienic conditions are usually as or more crucial to health as water quality. Incentives should be introduced to improve sanitary and water supply conditions, such as protecting wells and water-storage. Authorities should promote changed societal norms in support of localised solutions, which is crucial in a

⁵⁵ EC Guidelines for water resources development co-operation, 1998, p241-245.

⁵⁶ These challenges are recognised in the GWP TAC report No 4 and most of them are also included in the Ministerial declaration from the 2nd World Water Forum, The Hague, March 2000.

development process where new partnerships between civil society, including private business, and public sector are developed⁵⁷.

In a water-stressed world any extension of sanitation coverage has to be innovative. In every specific situation, alternative methods for sanitation should be assessed. Sustainable sanitation actions require an unbiased evaluation of e.g. health risks from sewerage, cesspools, dug latrines, dry toilet systems, etc. Leaking or overflowing sewers may be a health hazard to poor sections of society, while mismanaged dry toilets can have health consequences for individual families. Understanding root-causes of mismanagement is vital for practicable policies. Indirect causes, such as lack of legal deed to the plot making the owner unwilling to invest in sanitation and should be rectified in order to open up for local activities. Extension of sanitation coverage will involve actions of various kinds, such as town planning, change of societal norms and expectations, relaxed regulations, etc.

A recent, promising development deals with *ecological sanitation*. The leading idea is that water and nutrients are circulated in (as short as possible) loops back to productive use. At household level, this means that the urine and faecal material is sanitised and returned to the soil as nutrients. In centralised water and sanitation systems it means that wastewater and sludge are treated well enough to be returned to nature without causing long-term harm. An inherent benefit of small re-circulation systems compared to piped systems is that the level of sophistication can be adjusted to affordability and available management. The community would benefit from an improved environment, while saving water resources.

Ensuring water for food security in a rural development context includes addressing water management for irrigation (on small and medium scale) and develop rainfed agriculture systems.

Today the wider concept of human security is integrating food security concerns⁵⁸. The challenge is to integrate long term food security objectives into long term poverty eradication policies that is providing a coherent framework for national development strategies. Trying to achieve food security would entail addressing concepts such as household subsistence, investment choices, vulnerability to drought and famine, and trade in agricultural products versus self-sufficiency. Ensuring food security, within cross-sectoral coordination, would need either improved management of smaller-scale water-efficient irrigated areas or increased promotion of upgraded rain-fed agriculture. Food security for the rural poor has very little to do with large scale irrigation. The recent recognition of importance of urban food production also needs to be incorporated into policies and practices. In irrigated agriculture, capacity to enhance resolving of water-food security and improving crop productivity per drop (of water evaporated) and crop productivity per unit of investment are particularly important. In areas where water is abundant rainfed agriculture traditionally has been practised but environmental concerns, such as heavy use of fertilisers and pesticides, and changes in policy often have slowed the growth in production; there is often a need for increased management capacity. In areas where rainfall is low or very erratic the need for an upgrading of rainfed agriculture may require enhanced capacity in water harvesting for crop and livestock production, integrated water and soil-fertility management or in development of drought-resistant crops. There is increasing evidence showing that the reason behind low yielding rainfed farming systems, is not necessarily a lack of water (even in the most drought prone areas of sedentary farming), but rather caused by the interlinked effects of poor water and soil management. Added to this is the character of tropical hydro-climates with extremely unreliable rainfall (leading to erratic distribution of rainfall over time and in space), high intensity storms, and high atmospheric thirst for water (high potential evapotranspiration).

One way of providing food security in poor rural areas would also be to meeting the challenge of livelihood diversification. This would ensure alternative income generating opportunities for the poorest people. Together with water saving methodologies and more sustainable management systems,

⁵⁷ COM(2001)53, p 20.

⁵⁸ EC DG Development. Rural Development and Food Security. Agriculture Sub-Sector Strategy Paper. October 2000.

livelihood diversification might also decrease the pressure on scarce water resources. Increased capacity to develop diversified livelihood systems in poor rural and urban areas should be provided for.

Protecting, restoring and sustainably use water resources and ecosystem would ensure conservation of vital ecosystems to secure their survival and to ensure ecosystem services.

Any actions taken would need to ensure that key ecological systems are kept operational to secure the ecological goods and services that they deliver. Loss of species and habitat will reduce the biological diversity and result in a decline in fish production and further exacerbate demands for protein from livestock production and agriculture. In protection and sustainable use of ecosystems actions to secure a sufficient amount of water as well as actions to secure water of acceptable quality need to be undertaken, often simultaneously. It is essential for countries to find a proper balance between human needs and the intrinsic value of ecosystems at all levels of water management.

Water to meet increasing urbanisation, sustainable industry and energy production.

Meeting the challenge of *urbanisation*, including in peri-urban areas, requires water for domestic use, promotion of adequate sanitation but also water for peri-urban agriculture. Contrary to the case of conventional piped systems, the new arrangements can provide options that fit the local management systems and financial capacity. For the long term development and sustainability of a city the catchment of its water sources needs to be seen as an asset for development to be protected from upstream over-exploitation and water quality degradation.

Industries, not just large scale industries, are contributing to the pollution of surface as well as groundwater. Small-scale industries, including among poverty stricken communities, are needed to be developed, which would imply a pressure on water quality and quantity. Capabilities to undertake and to develop cost-effective and ecologically suitable technologies for waste disposal is a key issue, since still most of the waste is discharged untreated. There is also a need to invest in collaborative solutions and in governance systems for pollution management.

In the *energy* context, the interest from donors in large hydro-power projects requiring large dams is declining, except for uniquely competitive low-cost sites and sites where environmental impacts are acceptable, and small and medium hydropower in mountainous areas with few other energy resources⁵⁹. There is also a need to invest in the use of renewable energy for water pumping, for waste water treatment and for desalination, where it is feasible.

Provide security from *water related hazards* would imply dealing with variability of water in time and space including managing floods and droughts and mitigating their effects. Management of floods depends on the river basin, including upstream and downstream areas whether in a national or regional surrounding. It may have severe effects both nationally and regionally including in the coastal zone and adjacent marine areas. Flood preparedness and mitigating of the flood effects should include flood warning systems, structural flood mitigation measures such as flood protection and creation of storage capacity. It should further include non-structural measures i.e land-use planning.

Within development cooperation measures to mitigate the effects of droughts - long periods when the potential evapotranspiration has exceeded precipitation and adversely affected land production systems - could be undertaken. Such measures may include: early warning and response capacity systems, efficiently managed emergency relief and food aid, improved food stocking systems, and alternatively livelihoods for drought prone areas.

Mismanagement, excessive withdrawal or pollution of water resources would have an impact in the discharging area, a delta area, a *coastal zone area* or associated *marine ecosystem*. EC should therefore promote an Integrated Water Resources Management approach within a river basin, which includes management of the coastal zone.

⁵⁹ World Commission on Dams: Final Report, November 2000.

4.2.2 Linking management and action - the regional perspective: Transboundary water management and conflict prevention

Prevention of conflicts over water, whether based on a legal treaty or not, needs to build on cooperation and on the sharing of benefits rather than the sharing of the resource. EC should support an improved governance structure to secure best possible use of water and an enhanced cooperation in Integrated Water Resources Management of shared, including transboundary, water systems.

The issues within emerging cooperation over transboundary water resources include new partnerships and an increasing openness among the partners including within an upstream/downstream relationship. The EC support in transboundary waters situation should also include provisions aiming at conflict prevention. Damage caused in response to driving forces, such as rapid population increase may cause threats to long-term sustainability of river basin agreements. The need for an application of an Integrated Water Resources Management is increasingly recognised and within that innovations in institutional arrangements; increased decentralisation; the recognition of the environmental demand for water etc. In developing cooperative arrangements there will be a need for assistance and funding for coordination and cooperation over quality, quantity, groundwater, surface water, local socio-political and economic relationship. The EC should provide support to reach water security in such situations where those suffering often are the poorest people. The EC could also promote dialogue on basin-wide cooperation in such areas as information-sharing, capacity building and technology transfers as well as help focusing on achievable goals - out of a "basket of benefits" - instead of focusing on rights and allocation issues. Cooperation between riparians on flood preparedness or mitigating the effects of hazardous floods should be promoted.

4.2.3 Linking management and actions - a global perspective: Mitigating the impacts of climate change on access to water for the poor

In a world with a global mean temperature rise of 1-6°C within the next 100 years there will be an intensification of the hydrological cycle, with changes in intensity and patterns of precipitation and evapotranspiration. This will of course have an impact on the living conditions for human beings as well as for the environment. The climate change will exacerbate periodic and chronic shortfalls of water as well as flooding. According to the models predictions in some areas point to more severe rainstorms, while in others rain events will happen less often, thus resulting in droughts and problems of water access. According to the report by the IPCC⁶⁰ most important changes will occur at the lower latitudes i.e. where population growth is most rapid. The conditions will be even more arid in those areas where the climate of today is arid, which will exacerbate the difficult conditions for the poorest people living in water scarce areas. The effects of floods are particularly severe in low-lying areas, including within several of the Small Island Developing States. The effects of climate change will exacerbate the effect. These countries will need assistance to increase their capability to cope with the emerging situation and to mitigate the effects of climate change.

⁶⁰ The latest report from the Intergovernmental Panel of Climate Change, Working Group I, 3rd Assessment Report, Summary for Policy Makers, IPCC, 2001.

ANNEX 1 : EC focus areas

Four Focus areas for EC-supported water-related activities were defined in the Guidelines for Water Resources Development Co-operation. They can be grouped into two main categories within the overarching policy framework of Integrated Water Resources Management (IWRM):

- **Water resources management**

IWRM - Cross sectoral coordination with other development sectors, including food provision and environment.

In addition to its importance for human survival and well-being, water is a basic ingredient in many productive and non-productive activities. As already outlined, there are many cross-sectoral considerations to be taken into account, and there is a need to apply an integrated approach when indicating the policy priorities to focus on. When growing and incompatible sectoral demands claim for more water, choices will have to be made in terms of how should the water withdrawn be allocated between different sectoral uses, including for food security, industries and energy, environment etc. Such allocation challenge is particularly pertinent in areas where the overall availability is poor. It could be choices between major urban centres including the peri-urban areas and the surrounding agricultural lands and wetland ecosystems. It must be handled through a combination of regulatory measures and managing principles.⁶¹ This implies in particular moving towards pricing water services to reflect the cost of their provision. Effective systems to assess the value of water are necessary, in order to balance economic efficiency against social equity or environmental sustainability.

The Focus Area dealing with "Water Resources Assessment and Planning" allows for special attention to be given to macro-planning of water resources management. At national level, activities are mainly designed to develop and support a co-ordinated strategy on the use of water resources, with the main purpose to ensure sustainable development in all water-related sectors in the various regions of the country, and in so doing, help to avoid or resolve conflicts of interest over allocations of water between stakeholders.

This is also the context in which the various uses of water from multi-purpose dams (for irrigation, hydropower, municipal supplies, flood control and recreation) will be reconciled. Cross-sectoral coordination also includes consideration of the planning implications of environmental concerns, protection of groundwater and of coastal areas, on which freshwater outflows can have significant impact, as well as navigation. In countries vulnerable to extreme events such as drought or floods, planning considerations need to include disaster prevention. An integrated approach is needed to ensure that all these considerations are taken into account in the management of the resource. It is therefore important that decision makers have access to adequate information on the resource and user demand patterns in order to make correct decisions on policy, allocation, pricing, legislation and other issues which will have a direct impact on sustainable socio-economic development. Interventions usually consist of studies and institutional strengthening, addressing these issues.

As part of cross-sectoral coordination the Focus Area on "Agricultural water use and management" has to be addressed. Management system needs to integrate land and water management - '*a land use decision is also a water decision*' - to ensure long-term food security also for the poor. Food security and agricultural development are closely linked to water resource availability, and the increasing pressure of population on food supplies means that many countries are interested in expanding their cultivable areas by recourse to irrigation. In many developing countries, irrigation is the main user of water, with almost 70% of the engineered supply absorbed by agricultural production. The construction and repair of reservoirs for storing and retaining surface water is a main activity; efficiency in the use of water in irrigation is a critical consideration. This Focus Area is intended to cover schemes relating to agricultural

⁶¹ Ibid.

water use and management at all levels, from small-scale, community-based schemes to large-scale formal schemes requiring sophisticated engineering. In Asia, it is likely that the rehabilitation and modernisation of existing systems takes precedence over the development of new schemes. In Africa, new small-scale developments owned and run by smallholders are more common. Other activities in this category may include those for prevention of desertification, water harvesting, soil erosion control.

Water-related implications for conservation and sustainable management of the environment need to be integrated in the cross-sectoral coordination. The protection of environmental or ecological needs, often remote from project locations, can be neglected unless an overall perspective is applied.

Water resources management- a tool for conflict prevention, including the transboundary context.

Competition over shared resources, in particular water, can be a root cause to social, economic and political tension. This is particularly true in a water scarce region, whether within a country where sectors or different population groups may have competing interest, or between countries in an upstream/downstream position. Surface water resources are derived from rivers which may originate outside national and state boundaries; even within countries, river basins rarely correspond to existing administrative boundaries. Similarly, groundwater extraction does not occur tidily: its beneath- and above-ground impacts are not confined to particular administrative localities.

- **Water supply and sanitation**

Activities dealing with the provision of water supply and sanitation services may be divided in two categories, allowing programming and activities with similar social, economic and technological characteristics to be grouped together.

Basic water supply and sanitation covers programmes and projects which have to do with the extension of water supply and excreta disposal services to unserved and underserved populations in low-income communities, including both rural and poor urban settings where small-scale installations are managed and operated on a local basis. They usually consist of low-technology installations (for water supply, handpump-tubewells, rainwater catchment tanks, gravity flow to standpipes; for sanitation, pit latrines, and where practicable, simplified sewerage systems and septic tanks), community managed schemes, in which local authorities play a facilitating and/or supervisory role.

Although rural areas have also suffered from neglect, activities launched during and since the International Water Decade of the 1980s have produced a significant improvement in coverage rates, at least as far as drinking water supplies are concerned. Despite a lot of efforts, the sanitation coverage has declined and as a result more policy attention is now being given to waste disposal, especially in densely-settled low-income areas. Enhanced programme support is needed in this context. Operation and maintenance of these systems requires very different arrangements from centrally-run systems, as does any system of charges to customers. The importance of gaining community participation and ownership to ensure O&M and cost recovery has led to innovative approaches for management of community-based service schemes. This Focus Area therefore covers basic services schemes which have these common technological, management, financing, social and economic characteristics, and can profit from the body of recent experience associated with such schemes.

As urbanisation, in particularly migration to peri-urban regions of the big cities and to small towns, is growing in ACP and ALA-MED regions, urban water supply and sanitation is a growing problem that needs to be addressed : Municipal water and wastewater services covers major urban and industrial installations and systems, including water supplies, wastewater treatment and sewerage, undertaken within the municipal area, usually under the auspices of the Municipal Authorities. These services are primarily capital-intensive types of programmes and projects with more sophisticated technology and maintenance requirements as compared with basic services schemes. They also include urban drainage, and pollution control for a wide range of industrial and domestic consumers.

Rehabilitation and repair of existing systems, including the reduction of wastage from leaking pipes and reservoirs, is an important area of activity. Optimal use of existing systems should be preferred to

extension of new systems (unless the new systems are intended for unserved low-income populations). Given the rapid rate of urbanisation in many developing countries, one area of concentration will be the development of additional water sources; the increasing distance of intakes from urban settlements is, in many cases, contributing to the escalation of costs, imposing a need for water-saving and efficiency. Water quality is also a growing concern. Prevention of seawater intrusion into aquifers, wastewater treatment, and control of pollution are becoming major issues in many developing country cities and towns. Innovative solutions such as recycling and re-use of water and water saving strategies will be needed. Cost recovery, regulation and demand management will be key elements of programme and project design. Activities in this Focus Area will relate closely to those covered under Guidelines for Urban Development which are also under preparation..

A special attention needs to be given to the peri-urban context : The major public works with which municipal authorities are mainly pre-occupied in the water, sewerage and urban drainage context rarely provide service outreach to slum and shantytown areas. Thus, even where levels of urban coverage appear high, the figures may mask the fact that coverage in marginal communities is inadequate or non-existent. As a population group, the urban poor is the fastest growing in the world. The risks to their own health, and of the spread of communicable disease to other neighbourhoods, posed by their crowded, insanitary habitat is extremely high. In large towns and cities, the municipal authorities have ultimate responsibility for the provision of services, and need to fulfil their responsibility by establishing the regulatory framework, urban planning, and playing their part in facilitating service spread. In most programming exercises, schemes for rural and urban areas are conceptually differentiated. This is not only because the administration of rural and urban areas falls under different authorities, but because there is a perceived dichotomy between the poverty, neglect and economic backwardness of rural areas in the developing world, and the wealth, high levels of capital investment and political leverage which characterise urban settlements. This perception has tended to lead to neglect of poor urban areas, in water-related activity as in other forms of infrastructural investment. This tendency must be corrected.

ANNEX 2 : Member States water policies and activities

3.1.1 *Austria*. The new Austrian water policy is applying an holistic approach but is mainly focusing on water supply and sanitation with the following goals: water supply and sanitation in adequate quantity, quality and availability for all people in the region; protection of the water sources in the region; ensuring that the supply is secure; and that the water supply and sanitation is affordable and cost effective. The Austrian policy is also favouring Private-Public-Partnership and new and alternative technologies such as solar energy for water supply, rain-water harvesting and ecological sanitation.

3.1.2 *Denmark*. The new Danish development policy approved in year 2000 has a strong focus on poverty alleviation.⁶² Danish bilateral assistance is mainly provided as sector programme support to 20 programme countries, two-thirds of them in Sub-Saharan Africa. In 9 countries Danida is presently engaged in providing assistance in water supply and sanitation. Water resources management complements in most cases the engagement in water supply and sanitation. The sector water policy includes assistance to both rural and urban areas "with a focus on meeting basic demands of the unserved and under-served poor people living in rural communities, small towns and slum areas". Fast growing urbanisation has become a priority. Links to health and education are mostly parts of the project unit.

From a management perspective issues such as user ownership, functioning of public and private sectors and of organisations and institutions, the participatory approach and the question of full cost recovery are important issues.

3.1.3 *France*. France over-all water policy has a broad approach as the Ministries of Agriculture and Environment have a strong influence on water policies. Focus is therefor on; management of water, especially on institution building at watershed level; water use in agriculture; links with health and with environment; and on training, information and research. Bilaterally, France is focussing on the poorest countries with a traditional relationship to France, mainly in West Africa. The bilateral cooperation is to be reoriented and concentrated on fewer items and larger projects. France also wants to strengthen the co-ordination between French stakeholders in the development assistance as well as multilateral co-operation. The do support the Global Water Partnership, as a global water network.

3.1.4 *Germany*. Germany is the world's second largest donor in the water sector and is applying a global approach to the water development policy. The focal areas for German water development cooperation are: Water sector reforms; Conflict prevention at transboundary water courses; International sector dialogue; Urban water supply and sanitation; Rural water supply and sanitation; and Irrigated agriculture. All German supported water projects should be socially and environmentally appropriate and sustainable. They need to alert to the following principles: that water should be considered a scarce economic good; that the country should confine itself to economic policy and framework planning of the sector; that Integrated Water Resources Management should take place within the watershed and not within customary administrative boundaries; and that the ones operating the water supply and sanitation facilities must be accountable first and foremost to their customers and owners. The functionality and cost-recovery aspects of the projects are important.

Germany is also focussing on water conflict prevention within the framework of a combination of development policy instruments with both security and foreign policy and with environment policy measures. This has been demonstrated in international dialogues on Cooperation for Transboundary Water Management⁶³.

⁶² "Partnership 2000", Danish Development Policy. "Water Supply and Sanitation, Danida Sector Policy", 2000. "Water Resources Management, Danida Sector Policies", 2000.

⁶³ 1st Petersberg Round Table: Global Water Politics. Cooperation for Transboundary Water Management, Petersberg/bonn, 3-5 March, 1998. International Round Table: Transboundary Water Management. Experience of International River and Lake Commissions, Berlin, 27-30 September 1998.

3.1.5. *Ireland.* The Irish water development cooperation is directed mainly towards 8 countries in Sub-Saharan Africa. The programme is focused towards supporting the development of water supply and sanitation in a manner that conforms to national policies and that facilitates access to those resources by those who are disadvantaged. The assistance should promote the development of structure processes, strengthen the capacity within the government to support communities in water supply and sanitation development; strengthen the awareness on the environmental impact of water supply and sanitation and waste water; support communities in establishing priorities; promote changes in hygiene behaviour; and promote operation and maintenance systems.

3.1.6. *The Netherlands.* The Netherlands attaches a strong priority towards water and water-related projects. Achieving water security is a key priority in Dutch development cooperation. The cooperation is focused on securing availability of adequate water of good quality "not only for health (drinking water supply and sanitation) but also for productive activities such as agriculture, fishing, industry, shipping and energy... and for the preservation of ecosystems and biological diversity."⁶⁴ The water supply and sanitation sector, particularly to the poor is important but programmes do also include projects within sustainable irrigated agriculture⁶⁵, and the preservation of Freshwater wetlands⁶⁶. A strong importance is attached to Integrated Water Resources Management⁶⁷. Women's participation in water-related issues⁶⁸ is another key priority. The approach is shifting from project directed towards sector directed. The regional coverage includes also Asian countries although the tendency is to concentrate to fewer countries. As a consequence of the attention resulting from the 2nd World Water Forum in The Hague, March 2000, the budget for the water sector has increased.

3.1.7. *Sweden.* Water is a priority issue within the Swedish Development Policy. The overall objective is support within the Integrated Water Resources Management framework; "to promote a sustainable management and equitable use of water resources to benefit people, especially resource poor women, men and children, while safeguarding the environment"⁶⁹. Within the framework of IWRM Sida will attach high priority to interventions such as cooperation on shared water resources to prevent conflicts and promote security; application of demand management principles; measures to prevent and control pollution of water resources; rural and urban water supply integrated with health perspectives and environmental sanitation; ecological sanitation in rural and peri-urban areas; measures to conserve water in agriculture; and conservation and sustainable use of wetlands and coastal environments. Sweden attaches high priority to the strengthening of capacity in all the areas mentioned and to the ensuring that women as well as men have increased potential to influence, participate in and benefit from water sector development.

3.1.8. *United Kingdom.* The United Kingdom has just released a strategy "Addressing the Water Crisis - Healthier and More Productive Lives for Poor People"⁷⁰. This is the UK water strategy within the framework of the development policy targeting to reduce poverty, provide basic health care and universal access to primary education. The main challenges to be address through this strategy are to improve the management of water resources and the environment; to avoid conflicts over water

⁶⁴ NEDA, Ministry of Foreign Affairs, the Netherlands: Water Supply and Sanitation in Developing Countries. Sector Policy Document of Development Cooperation no 12. March 1998.

⁶⁵ NEDA, Ministry of Foreign Affairs, the Netherlands: Sustainable Irrigated Agriculture, Policy and best practice document of Development Cooperation no 1, February 1998.

⁶⁶ Ministry of Foreign Affairs, Development Cooperation, the Netherlands: Freshwater wetlands. Policy and best practice document of Development Cooperation no 6. September 2000.

⁶⁷ NEDA, Ministry of Foreign Affairs, the Netherlands: Water for the Future. Integrated Water Resources Management. Policy and best practice document of Development Cooperation no 2, July 1998.

⁶⁸ Ministry of Foreign Affairs, Directorate General for International Cooperation, the Netherlands: Women, Water and Sanitation; Sector Papers Women and Development, March 1989.

⁶⁹ Management and Use of Water Resources. A Summary of Sida's Experiences and Priorities. Position Paper. Sida, May 1999.

⁷⁰ Strategies for Achieving the International Development Targets. Addressing the Water Crisis - Healthier and More Productive Lives for Poor People. DFID, UK March 2001.

resources; to improve the allocation of water between different users; to deliver sustainable water services and sanitation services to meet needs; and to improve co-ordination among the international players. In doing this DFID sees it important to put the people at the centre, to respond to demand, and to recognise water as an economic good. Activities to meet the challenges will be in form of activities to transform institutions for them to be able to meet with the challenges; to promote best practices such as support the integration of hygiene promotion into water and sanitation programmes or support governments to plan prevention and mitigation of disasters from flooding and drought; and activities to generate and share knowledge such as appropriate ideas relating to the water sector or ensure that information is provided to those who need it.