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Preparation Paper

United Nations Industrial Development Organization (UNIDO)

“Clean Water for All: Water as a Basic Need for Growth, Sustainable Development, Poverty Alleviation and a Key Factor in Achieving the Millennium Development Goals”

The UNIDO-Chairteam of VIMUN 2006

Chairperson:

Manuel Neumann is going to be your Chair for this year's Vienna International Model United Nations. Having finished my Bachelors degree in Business Administration in Austria, I am currently enrolled in the Masters Programme of International Economic Studies at the University of Maastricht, Netherlands. I participated at last year's VIMUN as Co-Chair of the UNIDO committee and I was furthermore a delegate at the Oxford International Model United Nations 2005. I personally consider UNIDO a very important committee at VIMUN, as it deals with challenges of current, global importance, such as this year's topic "water for all" and it is furthermore located, here, at the UN-headquarters in Vienna. I am really looking forward to this extraordinary event in summer and I am curious about your future discussions on this "hot" topic! Hoping that you will participate motivated and prepared at our committee sessions, I am convinced that you will not just have passed unforgettable moments during our social events, but also gained new insights in the UN procedures and precious experiences for your future!

See you at VIMUN 2006!

Co-Chairperson:

Klaudia Feurle, 24, finished her International Business Studies and is now enrolled in Political Science at the University of Vienna. She likes the challenge of participating in Model UNs, having been a delegate at VIMUN 2005 as the representative of Afghanistan in the UNIDO committee, role playing Portugal in the European Council at ONUMUN 2005, and serving as the German Delegate in the Security Council at GIMUN 2006. Now she is looking forward to being your Co-Chair in the UNIDO committee during the VIMUN 2006. Why VIMUN? VIMUN is learning about UN-work, it is vivid intercultural exchange, fascinating debates, it is a unique experience in a simulated world of diplomacy, it is great dinners and receptions with people from all over the world. Why UNIDO? Having spent some time abroad she became fascinated with other cultures, languages and countries, and also saw the importance of measures and actions especially in economy and industry to help suffering people. Aiding in the fight against poverty and marginalization, UNIDO is doing invaluable work in sustainable industrial development.

Usher:

Martin Ruppe recently finished his studies in Project Management and Information Technology. In 2004 he did an exchange semester in Melbourne at La Trobe University (Business and Law). His first contact with the Model United Nations was in VIMUN 2003. He participated as the Finnish delegate in the UNIDO committee. In March 2005 he joined the Austrian delegation to Moscow to take part in MIMUN. At his second Model United Nation he represented India in the ECOSOC committee. His further interests include architecture, photography, travelling, cooking and foreign languages.

United Nations Industrial Development Organization (UNIDO)

Vision

"To improve the living conditions of people and promote global prosperity through offering tailor-made solutions for the sustainable industrial development of developing countries and countries with economies in transition".

Mission

UNIDO's mission is to help countries pursue sustainable industrial development. This is a specialist role in the UN system. The role is vital: industrial growth helps to foster economic development; economic development improves tax revenue and makes it possible for governments to achieve lasting social advancement and poverty alleviation.

Why UNIDO?

Because there are some challenges in the developing world that can only be met by an international organization. UNIDO has the necessary long experience; UNIDO understands the needs of governments, industrialists and entrepreneurs everywhere. In many fields, it has rightly earned a reputation as a neutral, honest broker. UNIDO is the world's most experienced industrial problem solver. Alone, among the UN family of agencies and organizations, UNIDO focuses on industrial development and serves as a global forum on its social, economical and technical consequences.

Background

The United Nations Industrial Development Organization was established in 1966 and became a specialized agency of the United Nations in 1985. As a specialized agency, UNIDO has a governing body (now composed of 171 Member States), a constitution and a budget of its own (2004-2005 some 353 million Euros), which is separate from those of the United Nations Organization and other specialized agencies. The current Director-General of UNIDO is Kandeh Yumkella from Sierra Leone, in his office since December 2005.

UNIDO is headquartered in Vienna, and it is represented in 35 developing countries. This representation and a number of specialized field offices, for investment and technology promotion and other specific aspects of its work, give UNIDO an active presence in the field (see www.unido.org).

Structure

UNIDO consists of a General Conference, an Industrial Development Board and Secretariat, as well as a Programme and Budget Committee.

The General Conference consists of representatives of all Members and holds at least one regular session every two years. The Conference determines the guiding principles and the policies of the Organization. It approves as well the programme of work, the regular budget and the operational budget of the Organization. The General Conference has the authority to adopt, by a two-thirds majority of the Members present and voting, conventions or agreements with respect to any matter within the competence of the Organization and to make recommendations to the Members concerning such conventions or agreements.

The Industrial Development Board consists of 53 Members who are elected by the Conference and holds at least one regular session every year. It acts under the authority of the Conference, reviews the implementation of the approved programme of work and of the corresponding regular budget and the operational budget, as well as of other decisions of the Conference.

The Secretariat comprises a Director-General, as well as such Deputy Directors-General and other staff as the Organization may require. The Director-General is the chief administrative officer of the Organization who has the overall responsibility and authority to direct the work of the Organization. The Director-General is appointed by the Conference upon recommendation of the Board for a period of four years.

The Programme and Budget Committee assists the Board in the preparation and examination of the programme work, the regular budget and the operational budget of the Organization, and other financial matters pertaining to the Conference.

Core Functions and Services

As a global forum, UNIDO generates and disseminates knowledge relating to industrial matters and provides a platform for various actors in the public and private sector, civil society organizations and the policy-making community in general to enhance cooperation, establish dialogues and to develop partnerships which help address the challenges ahead.

As a technical cooperation agency, UNIDO designs and implements programmes to support the industrial development efforts of its clients. It also offers tailor-made specialized support for programme development. The two core functions are both complementary and mutually supportive. On the one hand, experience gained in the technical cooperation work of UNIDO can be shared with policy makers; on the other, the organization's analytical work shows where technical cooperation will have the greatest impact by helping to define priorities.

Objectives of UNIDO:

The broad programmatic objectives and priorities of UNIDO are given in the Business Plan on the Future Role and Functions of UNIDO endorsed by the seventh session of the General Conference in 1997, in its resolution GC.7/Res.1. This Business Plan grouped the activities of UNIDO into two areas of concentration: a) strengthening industrial capacities, including programmes in support of the global forum function and policy advice; and b) cleaner and sustainable industrial development.

In addition, while maintaining the universal character and vocation of UNIDO, the Business Plan provided for the Organization's activities is to be focused geographically on the least developed countries, in particular in Africa; with emphasis on agro-based industries; and thematically on small and medium enterprises (SMEs). UNIDO achieves its objectives through: a) integrated programmes (IPs) or country service frameworks (CSFs), based on combinations of its eight service modules or in b) stand-alone projects involving only one or two service modules.

UNIDOs eight Service Modules are:

1. Industrial Governance and Statistics
2. Investment and Technology Promotion
3. Industrial Competitiveness and Trade
4. Private Sector Development
5. Agro-Industry
6. Sustainable Energy and Climate Change
7. Montreal Protocol (concerned with substances that deplete the ozone layer)
8. Environmental Management

UNIDO and Water

UNIDO, with its two core functions as a global forum and a technical cooperation agency in industry- and economy-related issues, offers a great platform to work on water-related issues. Currently UNIDO uses "Water Management" as the main facility in its Service Module 8 ("Environmental Management") to address the problems mentioned above. The extension of already existing and even more the broadening of this Service Module with new areas would be one possible way for UNIDO to contribute more significantly to the "Water for Life Decade". But there are more possible ways to do this (see www.unido.org/doc/5073).

UNIDO is furthermore taking a leading role in efforts to reach international development targets, particularly poverty alleviation and food security, by offering its advanced technical and managerial competencies for the integrated management of river basins, wetlands, coastal zones and large marine ecosystems. UNIDO is also promoting cleaner and sustainable industrial development through the transfer of environmentally sound technologies and industrial waste water/municipal sewage treatment, which will contribute to the sustainable utilization and protection of water resources. In addition, the environmentally sound utilization of water resources creates new employment opportunities and thus contributes to the socio-economic development of nations.

"When we discuss poverty alleviation, or industrial development, we must always remember it is about people. It is not an abstract concept. It is about people. So let us be really practical. Theory must come to practice and practice must be well financed." Kandeh Yumkella – General-Director of UNIDO

Introduction to the issue:

“Clean Water for All: Water as a Basic Need for Growth, Sustainable Development, Poverty Alleviation and a Key Factor in Achieving the Millennium Development Goals”

“Water is the earth's eye, looking into which the beholder measures the depth of his own nature”.

Henry David Thoreau

“Clean water can be instrumental in eradicating poverty and hunger”.

Eveline Herfkens

Without a doubt water is essential for life. Yet many millions of people around the world face water shortages and a daily struggle to secure safe water for their basic needs. Within a few decades, about a third of the world's people are expected to suffer from chronic water shortages.

Millions of children continue to die every year from preventable water-borne diseases because of contaminated water and poor sanitation. Furthermore drought afflicts some of the world's poorest countries, exacerbating hunger and malnutrition.

Access to clean water is a key prerequisite to growth and development and essential to the reduction of poverty in developing countries. Because water is necessary for life, for the economy and industry, and the sustenance of a growing world population, these realities, combined with an increasing demand for water, the unequal geographic availability of water resources, the limited worldwide freshwater supply and the fact that water is controlled by a few to the exclusion of many, suggest the urgent need of action with regard to an increasing number of clean-water issues across the globe. Additionally, access to clean water and proper sanitation in the world's poorest countries is considered essential for advances in female empowerment and parity in education.

Meeting the water and sanitation targets set by the international community for 2015 is a crucial step towards the ultimate goal of providing safe drinking water and adequate sanitation for all. Providing access to water and sanitation is also fundamental for achieving the other Millennium Development Goals, such as alleviating poverty, hunger and malnutrition; reducing child mortality; increasing gender equality; providing more opportunity for education; and ensuring environmental sustainability. Women and girls are overwhelmingly the water haulers of the world, a task that consumes valuable time and energy that girls could otherwise devote to schooling. Beyond meeting basic human needs, water contributes to sustainable development in other important ways. It is a major source of energy in some parts of the world, while in others its potential as an energy source remains largely untapped. Water is also necessary for agriculture and for many industrial processes. And in more than a few countries, it makes up an integral part of transport systems. With improved scientific understanding, the international community has also come to appreciate more fully the valuable services provided by water-related ecosystems, from flood control to storm protection and water purification. Though some analysts have predicted future conflicts over water, many countries successfully share river basins, inland seas and other water resources, showing that this challenge can also be a powerful catalyst for international cooperation.

Water for Life Decade

The United Nations International Decade for Action “Water for Life”, 2005-2015, launched on World Water Day (22 March 2005), calls upon the international community to strengthen efforts to increase access to water and sanitation for all. The decision to establish this Decade was made by the General Assembly during its 58th annual session (A/RES/58/217). This is the second international decade on water-related issues under the auspices of the United Nations. The first, the “International Decade on Drinking Water Supply and Sanitation” was held from 1981 to 1990.

UNIDO is participating in the “Water for Life Decade” among a lot of other organizations. One of the main priorities of this project is the further promotion of the Millennium Development Goals, set up in the year 2000, which include the reduction by half of the proportion of people without access to safe drinking water by 2015 and the elimination of unsustainable exploitation of water resources.

The International Water for Life Decade provides also an excellent opportunity for the international community to advance towards a truly integrated approach to the management of the world's water that ensures its sustainable use for generations to come (see <http://www.un.org/waterforlifedecade/>).

Some Facts and Figures about Water

Because approximately 70% of the Earth is covered by water, it is called the “Blue Planet”. Yet only 3% of the world’s water is fresh, while 97% is ocean salt water. And only 0.3% of this freshwater is available from rivers, lakes and reservoirs, 30% from the groundwater, while the rest is stored in distant glaciers, ice sheets, and mountainous areas – all places that we can hardly access.

While the world’s population tripled in the 20th century, the use of renewable water resources has grown six-fold. Within the next fifty years, the world population will increase by another 40 to 50%. This population growth – coupled with industrialization and urbanization – will result in an increasing demand for water and will have serious consequences on the environment.

More than one out of six people lack adequate sanitation, namely 2.6 billion people. Each year water-related diseases claim more than 5 million lives, mainly in Africa and Asia. Every 15 seconds a destitute child dies from a disease, largely because of poor sanitation and contaminated water.

Although food security has been significantly increased in the past thirty years, water withdrawals for irrigation represent 66% of the total withdrawals and up to 90% in arid regions, the other 34% being used by domestic households (10%), industry (20%), or evaporated from reservoirs (4%).

Providing safe drinking water and sanitation to those lacking them requires massive investment – estimated at US\$ 14-30 billion per year in addition to current annual spending levels of US\$ 30 billion worldwide.

People in rich nations (industrialized western countries) on average consume 400-500 litres a day compared with 20 litres in poor countries (least developed countries).

According to the World Bank, technical inefficiencies in power, water, roads and railways alone were estimated to have caused losses of US\$ 55 billion a year in the early 1990’s – equivalent to one per cent of the GDP of all developing countries, a quarter of their annual infrastructure investment, and twice the annual development finance for infrastructure.

The Millennium Development Goals (MDGs)

The Millennium Campaign was launched in October 2002 to encourage citizens around the world in their efforts to hold governments to account for the promises they made at the September 2000 Millennium Summit. Working at both the national and international levels, the ambition of the Campaign is to inspire a global movement to achieve the Goals and eradicate extreme poverty by 2015. The premise of the Millennium Campaign is simple: We are the first generation that can put an end to extreme poverty around the world, and we refuse to miss this opportunity (see www.millenniumcampaign.org).

The Millennium Development Goals agreed to by all 191 United Nations Member States at the Millennium Summit in 2000, set specific targets for reducing poverty, hunger, disease, illiteracy, environmental degradation and discrimination against woman by 2015. Among these targets, Governments agreed to reduce by half the proportion of people without access to safe drinking water by 2015, the year to mark the end of the International Decade for Action: “Water for Life”.

The Millennium Declaration among others emphasized the need for all countries to stop the unsustainable exploitation of water resources. Governments addressed this issue at the Johannesburg Summit in 2002 by agreeing to develop integrated water resource management and water efficiency plans by 2005. They also added a complementary target to halve by 2015 the proportion of people lacking improved sanitation.

The eight Millennium Development Goals

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower woman
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria, and other diseases
7. Ensure environmental sustainability

8. Develop a global partnership for development
(see more www.un.org/millenniumgoals/)

All the Millennium Development Goals are interdependent. Without improved access to freshwater and sanitation, the overarching goal of poverty reduction cannot be achieved. The economic consequences resulting from a lack of clean water and improved sanitation are often underestimated. Hygiene-related illnesses sap economic growth and cost billions of working days each year. Time spent collecting water from far-flung sources prevents women from doing other productive work and girls from attending school.

Millennium Development Goals in relation to clean water issues:

- **Poverty (Goal 1).** One fifth of the world's population lives in extreme poverty, while 800 million people are chronically hungry. Sufficient clean drinking water and adequate water for other household, agricultural and economic activities can be instrumental in eradicating poverty and hunger.
- **Education and Gender (Goals 2 and 3).** Queues for water almost always consist of women or girls. These time-consuming activities prevent women from engaging in productive work and keep girls from attending schools. Expanding access to water and sanitation is fundamental to female empowerment and parity in education.
- **Health (Goals 4, 5 and 6).** More than 5 million deaths are caused each year by water-related diseases. Contaminated water is the biggest killer of young children. Realizing the health goals critically depends on increased access to water and proper sanitation.
- **Environment (Goal 7).** The target for water and sanitation officially resides in the overall goal of ensuring environmental sustainability. Water is also essential for sustaining the biodiversity of all the world's ecosystems. (see more www.ourplanet.com/imgversn/144/herfkens.html)

UNIDO and the Millennium Development Goals

UNIDO cooperates with the United Nations Millennium Project to formulate and implement the best strategies for achieving the Millennium Development Goals. Being an active member of the following teams, Task Force One on Poverty and Economic Development, Task Force Ten on Science, Technology and Innovation; and the UN Experts Group, UNIDO contributes directly to the Millennium Project by sharing its expertise on the subjects relating to the Task Forces mandate. In addition, UNIDO is sponsoring jointly with the Millennium Project inter-agency cooperation for MDG-related needs assessments through the MDG-dedicated Technical Centre in Nairobi, where the UNDP, UNESCO and WHO also participate.

On the implementation side, UNIDOs work in the field largely contributes to the achievement of MDGs through reduction of income-poverty. Their projects help build capabilities on the ground relating to private sector development, trade capacity, industrial productivity and technological infrastructure sources – all contributing to higher growth potential and lower income-poverty. (see www.unido.org/doc/30373)

What has been done so far? – Important Conferences, Summits, Milestones dealing with the Water issue

1st World Water Forum (WWF) 1992 – Dublin

At the Dublin Conference the Heads of State were recognized with the “Dublin Statement on Water and Sustainable Development” that freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment. They noted furthermore that water management should be based on the participation of women due to their important role in water-related issues.

2nd World Water Forum 2000 – The Hague

On the 2nd WWF in The Hague the most important challenges concerning water-related issues were classified and identified into the following ones:

1. Meeting basic needs
2. Securing the food supply
3. Protecting the ecosystems
4. Sharing water resources

5. Managing risks
6. Valuing Water
7. Governing Water wisely

Additional challenges adopted by the World Water Assessment Programme:

8. Improving the knowledge base
9. Water for energy
10. Water for industry
11. Water for cities

3rd World Water Forum 2003 – Kyoto
(see www.world.water-forum3.com)

4th World Water Forum 2006 – Mexico
(see <http://www.worldwaterforum4.org.mx/home/home.asp>)

Earth Summit 1992 – Rio de Janeiro
(see www.un.org/esa/earthsummit/)

International Conference on Freshwater 2001 – Bonn
(see <http://www.water-2001.de/>)

World Summit on Sustainable Development 2002 – Johannesburg

On the Johannesburg Summit two goals were elaborated for the Water for Life Decade: the development of Integrated Water Resource Management (IWRM) and the development of water efficiency plans. Furthermore Kofi Annan identified during this Summit WEHAB (Water and sanitation, Energy, Health, Agriculture, Biodiversity) as integral to a coherent international approach to sustainable development.

(see www.johannesburgsummit.org/html/basic_info/unced.html)

Water Institutions and Programmes

UN Water

UN Water is the inter-agency mechanism that promotes coherence in, and coordination of, UN system actions aimed at the implementation of the agenda defined by the Millennium Declaration and the World Summit on Sustainable Development as it relates to water and sanitation. UN Water's objective is to facilitate effective support to Member States towards their achievement of water and sanitation-related, time-bound goals, targets and actions as agreed by the international community. To this end, UN Water acts at global, regional and country levels by building on and adding value to the work and expertise of UN agencies and programmes, ensuring coherence and integration among them and serving as a common voice of the UN system on water and sanitation. UN Water also facilitates communication and cooperation with external partners and provides timely, policy-relevant information on status and trends of the world's freshwater resources. UN Water is also responsible for organizing the annual United Nations World Water Day (22 March) and the United Nations Decade on Water 2005-2015. (see www.worldwaterday.org/)

World Water Assessment Programme

The World Water Assessment Programme (WWAP) was founded in 2000 as a collective response of the UN system to assist countries in reaching their commitments in key water-related challenge areas. Under the auspices of UN Water, the system-wide World Water Assessment Programme develops the tools and skills needed to achieve a better understanding of basic processes, management practices and policies that will help improve the supply and quality of global freshwater resources. The WWAP-secretariat is hosted by UNESCO on behalf of UN Water. Its main output is the World Water Development Report (WWDR) which is a periodic, comprehensive review providing an authoritative picture of the state of the world's freshwater resources, and aims to serve decision-makers with the tools for sustainable use and management of freshwater. Until now there exist two WWDR. The first edition of this report, "Water for People, Water for Life" was launched on World Water Day 2003 at the 3rd World Water Forum in Kyoto, Japan.

WWDR 2 from 2006 builds on the conclusions on WWDR 1 and confirms the ongoing, serious and growing water crisis – to a large extent a crisis of governance – and points to a prevalent lack of capacity and knowledge base as today's primary obstacles to achieving the necessary levels of water

governance. It also proposes a more integrated vision of water resources management to respond to changing environmental and socio-economic conditions.

(see www.unesco.org/water/wwap, www.unesco.org/water/wwap/wwdr/index.shtml,
www.unesco.org/water/wwap/wwdr2/table_contents.shtml)

World Water Council

(see www.worldwatercouncil.org/)

CSD – Commission for Sustainable development

(see www.un.org/esa/sustdev/csd/csd13/matrix.pdf)

Global Water Partnership

(see www.gwpforum.org/servlet/PSP)

Water Supply and Sanitation Collaborative Council

(see www.wsscc.org)

Selected Water-Related Topics

Water for Growth and Development

Water is one of the most controversial and challenging world topics, in the present and past. Furthermore water is a source for growth as well as destruction. We are very well aware of the fact that on the one hand water is a key source of economic development but can be on the other hand responsible for devastating disasters. These attributes make water unique and demonstrate the necessity of very complex management. Therefore basic water security needs to be achieved – with the huge productive potential of water and the reduction of the destructive impacts of water. Most of the developed countries started to invest early and heavily in water infrastructure, institutions and management capacity to facilitate and assist their enormous growth in the beginning of the 20th Century, whereas many developing countries still have water security as a major topic on their development agenda.

One could claim that there is now a widespread consensus among all nations that water resource development and management are basic essentials to generate growth, create prosperity, mitigate risk and reduce poverty. Furthermore it is recognized that developing countries will need large amounts of investment in water infrastructure at all levels, bearing in mind that decisions should be based on lessons of experience, with a special emphasis on institutional development. Moreover, these decisions should be made in a responsible manner (“responsible growth”), considering social development as well as environmental sustainability. It is therefore important to make the right decisions in a responsible manner as they are going to have long term consequences, keeping in mind the longevity of water infrastructure.

The World Bank introduced in its framework document for the 4th World Water Forum three different scenarios concerning water and growth for developed, semi-developed and developing countries.

All **industrial countries** are characterized by managed major water flows and quality control, which mitigate potentially negative effects such as water shocks or water based diseases. Many, but not all, developed countries face, at least relatively, moderate climate seasonality and limited variability and extremes. It can therefore be claimed that these countries had one less barrier to overcome, facilitating earlier and easier growth. Furthermore these countries, although varying widely in its extension, have implemented and embedded institutionalized water management into their political structures and, as mentioned above, early large investments have been made into infrastructure and maintenance. The World Bank describes these investments in infrastructure and institutions as a pre-condition for *harnessing hydrology*, which is used as base for growth and sustainable development.

An example:

The United States has invested trillions of dollars in hydraulic infrastructure. While these investments have been recognized as crucial to promoting growth, many of the largest federal investments in U.S. history were in fact made to curb the destructive effects of water – particularly in response to devastating floods (for example, the US Army Corp of Engineers has spent about US\$ 200 billion on flood management and mitigation since the 1920s, yielding an estimated US\$ 700 billion in benefits). Water resource development has had major positive growth impacts but there have also been substantial social and environmental costs. These (often unforeseen) costs have fueled public debate on the importance of conservation and public consultation, and led to the adoption of environmental standards and social safeguard practices that are continuously evolving.

The members of the second group, the intermediate or **industrializing economies**, have made the majority of their water-related investments in water-infrastructure to promote growth (for instance, hydropower and irrigation infrastructure). The difference compared to the developed nations however is that these countries are still vulnerable to catastrophic impacts such as floods and droughts. Furthermore these countries are characterized by some existing investments in infrastructure but often lack adequate institutional and human capacities, which take a long time to build up. To find the proper balance between investments in infrastructure and institutional development will be a key challenge for these countries in the subsequent years. The World Bank describes this group of countries as *hampered by hydrology* when it comes to growth.

An example:

In India, investments in water resources management, multipurpose hydraulic infrastructure and irrigation have contributed significantly to growth. Still, important opportunities remain for continued investment in infrastructure. Irrigation (irrigated districts average 25% poverty rates against 70% poverty rates in un-irrigated districts) and flood management and drainage infrastructure (the 2005 monsoons claimed about 400 lives and caused US\$ 700 million in damages in Mumbai) are examples. The potential benefits of improved institutions are similarly significant. In Tamil Nadu, for example, robust management institutions that would allow a “flexible allocation” of water between uses could increase the state’s agricultural production by 20% in 20 years, relative to fixed allocations.

The last group concerns the most effected and vulnerable countries, i.e. the **least developed countries**. Their institutional and human capacities to meet the great challenges, like climate seasonality and variability and/or rainfall extremes, are most of the time inappropriate and weak. The catastrophic effects of floods and droughts on the economy, with huge declines in GDP and tragic losses of life, are a further mark of these countries. Unfortunately, this group is affected by a further constraint. As such catastrophic events are expected to reoccur over and over again, risk-averse behavior and disincentives to investment are the critical aftermaths. Obviously such behaviour can seriously damage and hinder further economic growth. Therefore, many developing countries are characterized by high climate variability and low levels of investment into water infrastructure. The World Bank finally describes such countries as *hostages to hydrology*.

An example:

In Ethiopia, the current economic cost of hydrological variability is estimated at over one third of the nation’s average annual growth potential, and these diminished rates are compounded over time. Yet, with much greater hydrological variability than North America, Ethiopia has less than 1% of the artificial water storage capacity per capita to manage that variability. Clearly, substantial investments in infrastructure and in institutions are essential to meet this challenge.

Thus, what is important for countries to take care of is the right balance between infrastructure and institutional development to create the right base for growth. According to the World Bank, crucial misunderstandings between donor and developing nations occurred concerning this topic. On the one hand, donor nations are strongly focused on water management as a priority, when in fact there will be little return when there is insufficient infrastructure with which to manage water, while on the other hand developing nations are often seeking for investments in infrastructure. Therefore it will be important that donor nations bear the needs of their “clients” in mind while developing nations must ensure the development of water management institutions in parallel with their infrastructure investments, as investment in water-related issues alone will not be a panacea.

Sources:

http://www.worldwaterforum4.org.mx/uploads/TBLDOCTOSB_1_5.pdf

http://www.un.org/esa/sustdev/csd/csd13/documents/worldbank_paper.pdf

Water Supply and Sanitation

Having read the figures and facts in this paper it is anything but surprising that ensured water supply and sanitation are at the core of this issue. UNDP, together with UN-HABITAT and UNICEF contributed a basic discussion document concerning this topic to the 4th World Water Forum in Mexico. To show the importance of this topic a quotation from the authors brings it to the point: "The imperative of dramatically expanding coverage of water supply and sanitation services and improving water management overall deserves the vigorous response of the international community because of the relationship between water supply and sanitation and questions of human health, overall economic development, and equity; and because of humankind's shared understanding of our responsibilities to one another, a common understanding enshrined in many international human rights instruments." However, it is also absolutely clear-cut that future initiatives face many constraints. It must borne in mind that the most affected countries are characterized by many constraints such as financial, capacity and governance. Therefore service delivery in the poorest countries will require short-term action as well as a focus on building the management systems needed to implement large-scale programs over the medium-term and sustain the gains made over the long-term. Furthermore a departure from "business as usual" on the part of all key players will be required and new approaches that are based on decentralization, transparency in budgetary allocations, and massive capacity building shall be established. Moreover, such efforts will require, as mentioned in the previous section, heavy investments in infrastructure and institutional capacities. The authors of the formerly cited paper elaborate specific cornerstones of action concerning water supply and sanitation, from which the following shall be highlighted:

Governments and other stakeholders need to move the sanitation crisis to the top of the agenda

According to the paper, sanitation and hygiene somehow disappears during the planning, policy-making, budgeting, and implementation phases, while a majority of efforts and resources are allocated to water supply. This should be changed. Sanitation and hygiene promotion need to move to the "front and centre" rather than continuing as add-ons to water supply. Communication and social marketing, aimed at households, communities, schools, and public authorities are going to be key factors to look at.

Governments and donor agencies must simultaneously pursue investment and reforms for improved water supply and sanitation

It is important to bear in mind that if the sanitation targets, set for the year 2015, shall be met a dramatic increase of efforts, both in terms of action required and the speed with which these should be undertaken, is required. It will simply not be enough to wait until reforms are undertaken before making the necessary investments if these goals should become reality. Here, one of the major problems in developing assistance again becomes perfectly clear. On the one hand past Official Development Assistance (ODA) and private-sector investments did not bring the wanted institutional reforms with them, while on the other hand future aids and investments of course will depend on such changes. Therefore reforms and investments should be allowed to take place simultaneously – which is sometimes called "learning by doing" – and it will furthermore also ensure that reforms are grounded in reality. Thus, such actions would increase the possibility of meeting the MDGs by 2015.

A focus on sustainable service delivery, rather than just construction of facilities alone

The Millennium Development Goals necessarily focus on measurable targets such as the proportion of people without access to water supply and sanitation. It is important to remember, however, that water supply and sanitation are services, not simply facilities. The former is a process, requiring the sustained involvement of government, service providers, and households, while the latter is a product that can be delivered in a one-off project.

Governments and donor agencies must empower local authorities and communities with the authority, resources, and professional capacity required to manage water supply and sanitation service delivery

What is simply meant here is that water supply and sanitation service delivery should be managed at the lowest appropriate level possible. Of course, this should be accompanied by aid and provision of technical and managerial support together with a decentralization of authority and financial resources. However, it should be taken care that services are available and affordable by all parts of the society, especially by the very poor who suffer the most from such shortcomings. Furthermore, it must be taken care that sanitation services are economically sustainable. Therefore, water supply and sanitation systems require discipline within national level budgeting processes. No system should be built unless it is known how it will be financed, not just with an initial capital investment, but also to cover the costs of operation and maintenance.

Governments and their civil society and private sector partners must support a wide range of water and sanitation technologies and service levels that are technically, socially, environmentally, and financially appropriate, and innovation must be promoted in strategic areas.

As already mentioned above, to meet the sanitation targets a variety of changes and innovations are needed in financial, policy and institutional areas, such as the implementation of service delivery systems that help service providers to ensure effective relationships with households and communities, to work with communities, households, local civil society and/or private sector partners, and to build capacity to innovate and adapt solutions. Moreover, while many experts agree that a full complement of technologies for reliable water supply is available the situation is different for sanitation needs. These are still constrained by the lack of technologies that are on the one hand reliable and on the other hand affordable for a wide scale implementation without harming environmental sustainability (which is, for instance, one of the major concerns of UNIDO).

Sources:

http://www.worldwaterforum4.org.mx/uploads/TBLDOCTOSB_6_47.pdf
www.worldbank.org/watsan/

Integrated Water Resource Management (IWRM)

One further core topic of this year's 4th World Water Forum is the approach of an Integrated Water Resource Management (IWRM). We know by now that every country faces its own challenges, needs and problems regarding the "broad" and complex topic of water. How countries address and overcome these challenges and needs of people, industries and ecosystems depends therefore on their very special situation and development priorities. To optimize the contribution of water to sustainable development countries need to consider the numerous and complex links between activities that influence and are influenced by how water is developed and managed and how to encourage more efficient and environmental sustainable use of water as a limited resource. Therefore, to address these questions and challenges more and more countries are moving towards Integrated Water Resource Management (IWRM) approaches.

As called for in the Johannesburg Plan of Implementation and reinforced by the 2005 World Summit, many countries regard IWRM plans now as an opportunity to take a coherent approach to improve their water-related performance for further sustainable development. Some have chosen to create IWRM-plans on their own while others build on existing IWRM-approaches or incorporate water into current national development strategies. At the 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg, delegates concluded that integrated water resources management and water efficiency planning should be an essential element in all national or regional development strategies. Indeed, over the years it has been shown that an integrated approach to water resources management will be critical for achieving many of the MDGs, including not only those related to health, but also those related to poverty and hunger eradication, education, women's empowerment, environmental sustainability and a global partnership for development.

Therefore countries should have established IWRM-plans by 2005 and this target was thus added to the list of Millennium Development Goals. However, a survey of the progress towards this WSSD target was presented by the Global Water Partnership (GWP) at the Commission on Sustainable Development (CSD)-12 conference in April 2004, estimating that about half of the more than 100

countries included in the survey had only just started the process of formulating plans for improvement of water resources management. Since then, several countries have commenced IWRM 2005 planning. At the CSD-13 conference in April 2005, it was recognized that considerable progress had been made, but that many countries still have a long way to go.

Thus the over goal of IWRM is to aim at institutionalizing changes that will promote more strategic and coordinated decision-making on an on-going basis and IWRM is therefore a political procedure with long-term gains that are vital to the sustainability of the resource base. However, this approach also requires some trade-offs and short-term losers, especially for those who are interested in the status quo. IWRM can be seen as an iterative or stepwise method, in which implementing one policy or management tool may result in the need to modify others. It requires vision and political will to introduce, but with careful consultation and preparation can bring rich rewards. However it should be noted that there is no "perfect" strategy to achieve IWRM and plans will therefore vary from country to country. The main principles of IWRM are the following:

- Water is a finite and vulnerable resource, essential to sustain life, development and the environment
- Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels
- Women play a central part in the provision, management and safeguarding of water
- Water has an economic value in all its competing uses and should be recognized as an economic good

Overriding criteria of IWRM are economic efficiency in water use, equity and access for all, and sustainability of vital ecosystems. Furthermore, IWRM has emerged as one of the overarching cross-sectoral frameworks incorporating integrated approaches to water that have been developed over time, such as integrated river basin management, integrated groundwater management, integrated flood management, and integrated coastal zone management. IWRM obviously also includes integrated ecosystem approaches such as Integrated Coastal Area and River-basin Management (ICARM) where UNIDO also contributes actively (see <http://www.unido.org/doc/26190>).

Finally, the following remarks towards IWRM were made by the Global Water Partnership (GWP) in a framework document of IWRM for the 4th World Water Forum:

- Moving towards an IWRM approach at the national level requires positive change in the enabling environment, in institutional roles, and in management instruments. This includes change in (water) governance, i.e., the range of political, social, economic and administrative systems that are in place to develop and manage water resources and deliver water services, at different levels of society.
- Many countries are finding that the adoption of integrated approaches brings with it significant and long-term capacity-building needs. Clearly, IWRM approaches require technical capacities in a number of specialized areas. But capacity is also needed to manage the participatory processes that are such a vital component of effective implementation, meaning skills in communications, negotiation, conflict resolution, facilitation, consensus building, time management, and community mobilization.
- Defining indicators, establishing benchmarks, and setting up mechanisms to ensure on-going monitoring and evaluation are all key activities in moving towards more integrated problem solving approaches. Monitoring and evaluation is important not only at national and sub-national levels, but also at regional and global levels; to see whether the process of developing IWRM and Water Efficiency Plans as called for in the Johannesburg Plan of Implementation is on track, to measure impacts, and to determine if actions are contributing to larger sustainable development goals.
- Since integrated approaches involve applying knowledge from various disciplines to devise innovative solutions to water and development problems, science and technology, innovation, and applying knowledge all lie at the heart of the IWRM approach.
- From an IWRM perspective, the key issue in formulating a financing strategy is to reconcile the often competing goals of economic efficiency, social equity and environmental sustainability. This frequently poses thorny problems that require careful analysis; for

example, while making water affordable to the poor is a pre-requisite for a socially equitable policy, cost-related water pricing is desirable from the point of view of sustainability.

For more specific information about some “success-stories” of particular countries and projects look at the following two papers (http://www.worldwaterforum4.org.mx/uploads/TBL_DOCS_79_43.pdf see pages 53, 54, 55, 56; http://www.unesco.org/water/wwap/wwdr/water_security.pdf see pages 27, 30, 32, 33)

Sources:

http://www.worldwaterforum4.org.mx/uploads/TBLDOCTOSB_4_38.pdf

<http://www.unep.org/GC/GCSS-VIII/K0470535.pdf>

<http://www.ucc-water.org/documents/UNEPIWRM2005V5.pdf>

Water and Industry

In this last point, as an industrial development organization UNIDO surely also has to take a look at factors involved in the linkage between water and industry. It should be mentioned here that UNIDO's projects in general help to build capabilities on the ground relating to private sector development, trade capacity, industrial productivity and technological infrastructure sources – all contributing to higher growth potential and lower income-poverty. Water, obviously, can be related to each of these activities.

More general, the use of water in the industry is of crucial importance in terms of the amount of water used, the cost of investments to provide the water, the economic significance of the resultant production aid, and on the negative side, the environmental impacts of this use. Therefore, water and environmental issues need to be addressed in a water policy framework, as mentioned in the previous part of IWRM. For the industry the key issues remain the regulatory environment established by government and the adoption of effective environmental standards by the predominantly private-sector users. Although great progress has been made in the formulation of environmental standards and integrated water management system their adoption varies widely from very strict in many developed countries to more limited capabilities in many developing countries, where regulatory regimes are weaker.

Therefore, in its Service Module 8 under “Water Management” (<http://www.unido.org/doc/5073>), UNIDO includes services that assist industries to comply with and or go beyond environmental standards while enhancing their competitiveness in global and local markets, in terms of material efficiency strategies, innovative solutions, use of integrated pollution prevention, control approaches, best available technologies, allocation of environmental costs to their sources as well as analyzing problems in their economic, social and environmental complexity.

It should also be mentioned that the topic of energy and water had been dominated by the debate over major dam projects to the neglect of important issues such as small-scale hydropower and water use for cooling in thermal power plants, where beside economical and energy improvements serious environmental and social consequences have followed and are an important political issue in many countries (hydropower is a very important contributor to the world's energy balance, providing about 20% of total energy production). We know by now that the range of different uses of water resources is very complex and vary widely from country to country. In general, however, agriculture is still the largest direct user of water with about 70% of total use, sometimes even more in some developing countries. Industry, including energy, accounts for about another 20% but like industry itself this is very unevenly distributed. The remaining 10% of the total water bill is attributed to domestic use but plays of course a very significant part in terms of basic human needs, dignity and health. However there are also many other important issues related to water such as fishing and other resources gained from aquatic ecosystems.

Sources:

http://www.unesco.org/water/wwap/wwdr/water_security.pdf

www.unido.org

Dear Delegates!

On behalf of the VIMUN-Chairteam of the UNIDO please be reminded that this document is a Preparation Paper and should give you just a general overview of this topic and help you to get familiar with the current situation. To participate actively during the committee sessions more research from YOUR side, especially about your country's characteristics and needs, will be necessary!

***Your UNIDO-team,
Klaudia, Martin and Manuel***

Links for further research

Use the above mentioned links and:

<http://www.gwpforum.org/servlet/PSP> - Global Water Partnership (regional action)
<http://www.unesco.org/water/> - UNESCO and Water
www.wssinfo.org - Joint Monitoring programme on water supply and sanitation – WHO & UNICEF
www.wateryear2003.org - International Year of Freshwater 2003
<http://www.worldwaterforum4.org.mx/home/home.asp> - 4th World Water Forum 2006

Gender and Water

www.genderandwater.org - GWA – Gender and Water Alliance
www.un.org/esa/sustdev/csd/csd13/documents/bgground_2.pdf - A gender perspective on water and sanitation

Water and environment

www.unep.org
www.gpa.unep.org
www.unep.org/dewa/water
www.unep.org/regionalseas

Observers:

<http://www.worldbank.org/>
http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html - Organization for Economic Co-operation and development
<http://www.iisd.org/> - International Institute for Sustainable Development (IISD)