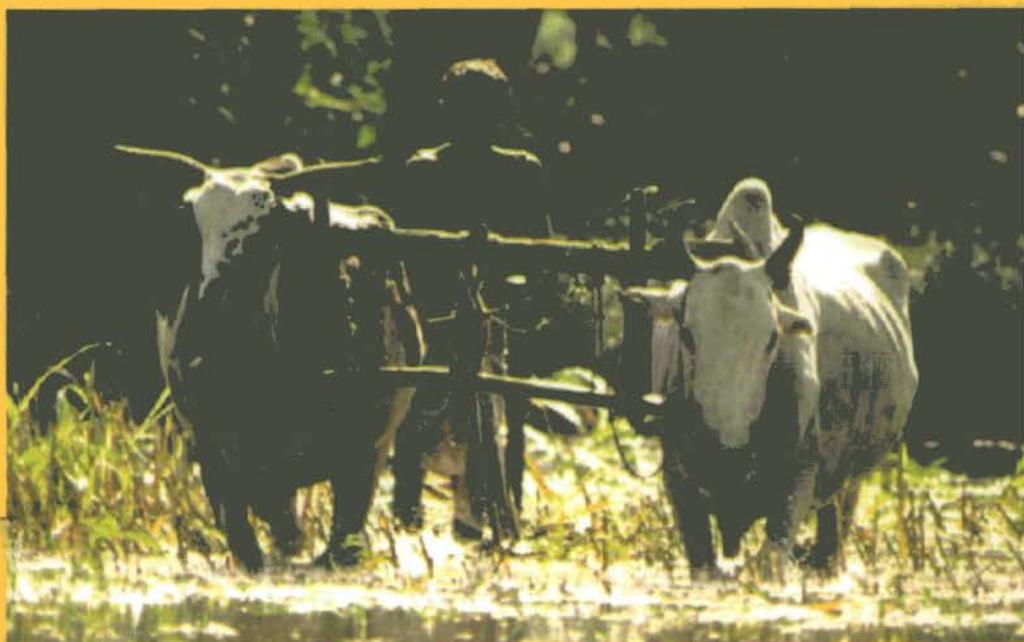


Dialogue

ON WATER, FOOD AND ENVIRONMENT

PROPOSAL



"We need a blue revolution in agriculture that focuses on increasing productivity per unit of water—more crop per drop"

Kofi Annan, Secretary General of the United Nations



IFAP



GWP

JCN

IMI
International
Management
Institute

UNEP



The Global Dialogue on Water, Food and Environment



Ten of the primary international actors in the fields of water resources management, water resources research, environmental conservation and health are establishing a dialogue process to examine the question of future water needs for nature and food production. The Dialogue as envisaged in this proposal is a process that helps build bridges between agricultural and environmental communities on water resources issues, by improving the linkages between the sectoral approaches. Frank Rijsberman, the Director General of the International Water Management Institute has been elected as the chairperson of the Dialogue Consortium.

- Food and Agriculture Organization (FAO)
- Global Water Partnership (GWP)
- International Commission on Irrigation and Drainage (ICID)
- International Federation of Agricultural Producers (IFAP)
- International Water Management Institute (IWMI)
- The World Conservation Union (IUCN)
- United Nations Environment Programme (UNEP)
- World Health Organization (WHO)
- World Water Council (WWC)
- World Wide Fund for Nature (WWF)

OBJECTIVES OF THE DIALOGUE

Development objective: Improve water resources management for food security and environmental sustainability with a special focus on the reduction of poverty and hunger and the improvement of human health.

Intermediate objective: Build bridges between agricultural and environmental communities on water resources issues by improving the linkages between the sectoral approaches that dominate policymaking and implementation, particularly at national level.

Immediate objectives: Establish a dialogue that will produce tangible solutions for the seemingly conflicting interests of water for food and environment, primarily at national and local levels and draw together, maintain and improve the required knowledge base for the Dialogue. Identify best practices and raise awareness amongst the relevant actors and stakeholders.

DIALOGUE CONSORTIUM

A Consortium is being established by the ten primary actors to implement the Dialogue. Its establishment will be formalised under arrangements agreed upon by the Consortium partners.

SPONSOR GROUP

A group of sponsors, at this time including representatives of the Governments of Germany, Japan, the Netherlands, the United Kingdom and Sweden is committed to support the initiative. The group is chaired by Bert Diphooorn, the Netherlands.

DIALOGUE SECRETARIAT

Director: Hans Wolter • **Secretary:** Veronica Lumanauw • **Location:** IWMI, Colombo, Sri Lanka •
E-mail: dialogue@cgiar.org • www.cgiar.org/iwmi/dialogue/dialogue.htm

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Dialogue on Water, Food and Environment: Proposal



Some emphasise the internationally accepted goals to drastically reduce poverty and hunger, but pay less attention to health and environmental goals.

Others place less emphasis on food security.

Sectoral agendas lead to very different views.

Summary

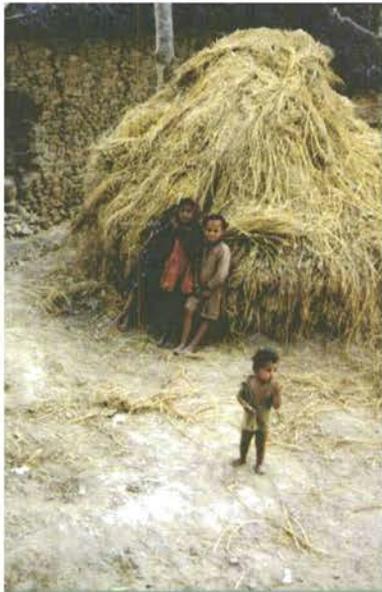
The water-food-environment issue can be characterised through these quotes:

“Water resources, and the related ecosystems that provide and sustain them, are under threat from pollution, unsustainable use, land-use changes, climate change and many other forces. The link between these threats and poverty is clear, for it is the poor who are hit first and hardest.” *Source: Ministerial Declaration, 2nd World Water Forum, The Hague, March 2000*

“On the one hand, the fundamental fear of food shortages encourages ever greater use of water resources for agriculture. On the other, there is a need to divert water from irrigated food production to other users and to protect the resource and the ecosystem. Many believe this conflict is one of the most critical problems to be tackled in the early 21st century.” *Source: Global Water Partnership, Framework for Action 2000 p58*

“We need a Blue Revolution in agriculture that focuses on increasing productivity per unit of water—“more crop per drop.” *Source: Secretary General Kofi Annan of the United Nations in his report to the Millennium Conference in September 2000*

While, in principle, and in a long-term perspective there need not be a conflict among all these objectives, in practice, the agricultural and environmental communities, particularly, have drastically different views on the way in which water resources should be developed and managed in the coming decades. The agricultural community emphasises the need to maintain food security and reduce hunger and rural poverty for a growing world population and concludes that 15–20 percent more water will have to be made available for agriculture in the coming 25 years.



In the early twenty-first century, increasing competition will further exacerbate domestic water problems, and add a host of other difficulties related to food and environmental security.

The world population is estimated to increase to ten billion and associated protein consumption rate increase will double the world food demand in the middle of twenty-first century. The environmental community emphasises current damages to ecosystems through overuse and pollution and concludes that an increase in water used by agriculture would be disastrous. There is no agreement on desirable solutions and this perpetuates unsustainable water use and leads conflicts over water at the local level and is an obstacle to investment in the water sector.

The lack of agreement on socially desirable solutions affects the poor and vulnerable groups in society, particularly those in the South that are hit first and hardest by growing water insecurity. Poverty and people's health are affected by this lack of water security.

Objectives

Development Objective

The development objective of the proposed Dialogue on Water, Food and Environment is to *“Improve water resources management for food security and environmental sustainability with a special focus on the reduction of poverty and hunger and the improvement of human health.”*

Intermediate Objective

Build bridges between agricultural and environmental communities on water resources issues, by improving the linkages between the sectoral approaches that dominate policy making and implementation, particularly at national level.

Immediate Objectives

1. Establish a dialogue that will produce tangible solutions for the seemingly conflicting interests of water for food and environment, primarily at national and local levels.
2. Draw together, maintain and improve the required knowledge base for the Dialogue.
3. Create a platform for local-or basin-scale activities that enhance food and environmental security in order to promote the exchange of experience and the development and identification of best practices.
4. Raise awareness amongst the relevant actors and stakeholders.

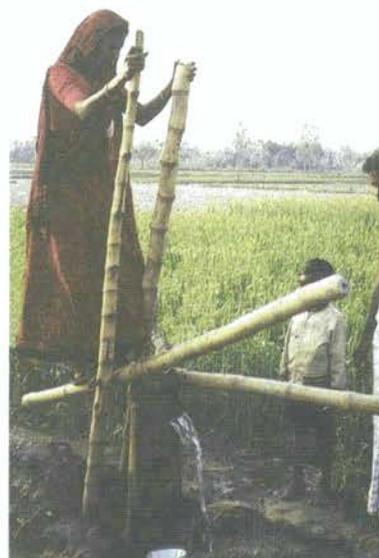
Main Outputs and Activities

- 1.1 Cross-sectoral dialogues *at national level* on desirable options to achieve food and environmental security to reduce poverty and hunger and improve health in at least 10 countries (workshops, technical reports and public awareness materials).
- 1.2 Dialogues *at basin and local level* on desirable options to achieve food and environmental security to reduce poverty and hunger and improve health in at least 10–15 river basins / case study sites (workshops, technical reports and public awareness materials).
- 2.1 Common definitions on water, food, and environmental security, and common indicators of poverty, hunger, health, and environmental quality.
- 2.2 Quality controlled information and analyses on water availability, use and requirements for agriculture, environment and associated uses.
- 2.3 Scenarios at global, national and basin levels concerning alternative options to develop and manage water resources for food and environmental security.
- 2.4 Assessment of impacts on food security, hunger, poverty, livelihoods, health, environmental quality and biodiversity of alternative scenarios.
- 3.1 Exchange of practical experience at the local level among the practitioners.
- 3.2 Synthesis of best practice information, based on the experience gained in many of local action projects. Better actions taken at local scales as a result of this interaction.
- 3.3 Inputs of local experience into the dialogue processes at national and basin/local levels.
- 4.1 Annual Dialogue meetings of all partners and participating organisations that raise the issue on the global political agenda through press releases, interviews and presentations of Dialogue Ambassadors.
- 4.2 Presentations at key meetings: Bonn Freshwater Conference, Rio+10, Third World Water Forum, ICID Congress in Montreal 2002, meetings of the UN Conventions and others as appropriate.

To this end the *Dialogue on Water, Food and Environment* is proposed as a process to be carried out with the following three main blocks of activities (figure 1), plus a communications programme:

1. A true cross-sectoral *dialogue process* among the stakeholders, primarily at national and local levels, that is open, clear, transparent, inclusive and solution-oriented. A large number of national-level dialogues or roundtables would form the heart of the dialogue. River-basin and local-level dialogues would complement these to exchange information and

The lack of agreement on socially desirable solutions affects the poor and vulnerable groups in society, particularly in the South that are hit first and hardest by growing water insecurity.



address issues affecting users directly. Special efforts would be made to connect to the local level, where the key challenge is to involve the real water users—the man or the woman “at the pump.”

2. An enhanced *knowledge base* to feed the dialogue and establish credible and authoritative knowledge accepted by both agricultural and environmental constituencies. The knowledge base would focus on achieving food and environmental security and on the impacts of past development as well as on evaluation of options for future development. It would focus on creating and implementing linkages and interactions among the ongoing and new key activities that fit the overall framework (but are funded and managed independently).
3. Networking for local- and basin-level *action-oriented projects* focused on testing and evaluating innovative approaches that enhance sustainable water security for agriculture and the environment. This would essentially be a platform for information exchange leading to identification of “best practices.”

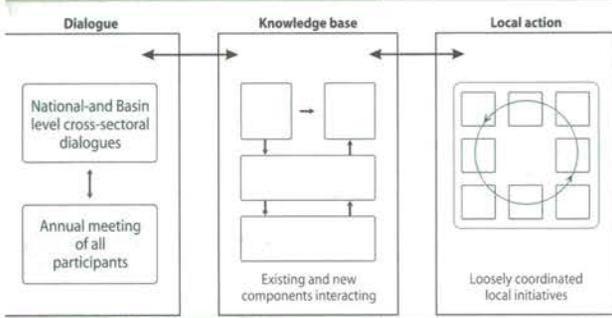


Figure 1. The dialogue process is about creating the links between existing programs, rather than developing new activities: it focuses on the arrows rather than the boxes.

“On the one hand, the fundamental fear of food shortages encourages ever greater use of water resources for agriculture.

On the other, there is a need to divert water from irrigated food production to other users and to protect the resource and the ecosystem.

Many believe this conflict is one of the most critical problems to be tackled in the early 21st century.”

Source: Global Water Partnership, Framework for Action 2000 p58

Background

Following the World Water Vision and Framework for Action process that ended with the Second World Water Forum in March 2000 in The Hague, many felt that there had been insufficient interaction between the agricultural specialists and the environmental experts. In fact, the “Vision for Water and Nature” and the “Vision for Water for Food and Rural Development” show widely diverging views on the need to develop additional water resources for agriculture and the benefits and costs that such development would have. To a very large extent, ongoing activities are still organised on a sectoral basis.

Many feel that resolving the differences between these sectoral views is one of the key challenges facing society at the beginning of the twenty-first century. The water crisis of the late twentieth century was defined by the lack of access to water for domestic purposes. In the early twenty-first century, increasing competition for water will further exacerbate domestic water problems, and add a host of other difficulties related to food and environmental security. Mismanagement of this crisis will mean that a fewer people will have access to safe water, an increase of poverty, and deteriorating health standards of vulnerable communities.

Given that irrigated agriculture is the dominant user of water withdrawn from nature for human purposes, the question is how much more water can be withdrawn without causing irrevocable damage to the ecosystem. The agricultural sector asserts that 15-20 percent more water will be needed in 25 years time for agriculture to maintain global and national

food security. This increase can only be achieved when significant improvements in irrigation efficiency can be obtained. The sector feels that given this situation, the dialogue should focus on options to achieve this in an environmentally sound and sustainable way and to realise food security for the poor as well. Others feel that irrigation expansion is not an option because of high social and environmental costs, and that there are other water options to produce enough food. At stake are the size and nature of both local and international investments that are necessary to grow food for a growing population, provide sustainable livelihoods for the rural poor and maintain the quality and integrity of the environment.

The Global Water Partnership (GWP) organised a meeting of about 20 people to discuss the need for action in Stockholm, Sweden on 14 August 2000. It was concluded that there are many planned and ongoing initiatives at the global and local scales in the fields of water, agriculture and environment that would benefit from some form of loose coordination. To explore the form and nature such an effort could take, the International Water Management Institute initiated and hosted the Colombo Dialogue meeting during 13–16 December 2000. The formulation of this proposal has been a direct follow-up action of the Colombo Dialogue meeting, and is based on discussions held there.

Over 130 people participated in a first planning and design meeting for a possible global Dialogue on Water for Food and Environmental Security in Colombo, Sri Lanka in December 2000. They concluded that there is an urgent need for more interactions between the agricultural and environmental sectors to evolve a shared vision on development and management of water resources. The essence of the new activity would build on existing actions, provide a coherent framework for synthesis and interaction and provide loose coordination on a voluntary, nondirective basis.

Approach

The dialogue deals with water management in agriculture and rural watersheds in general ranging from catchment management to fully controlled or supplementary irrigations schemes, rain-fed agriculture and drainage. Irrigated agriculture is at the heart of the debate but the Dialogue will not focus only on the narrow issues of water use efficiency or water productivity in irrigation. It will also include a review of environmental water management approaches and ways to reconcile development and conservation objectives. The dialogue invites out-of-the-box thinking such as improvement of rain-fed agriculture through zero tillage options and water harvesting schemes, plant nutrient recycling to the development of drought- and salinity-resistant varieties. The Dialogue will be useful in situations where traditional approaches through technological or economic measures have reached their limits and where a third way through social learning is required. The dialogue will help solving problems in developed and developing countries but relatively more attention is given to

Dialogue—the platform to reduce gaps between agricultural and environmental communities on water resources by improving the linkages between the sectoral approaches.





The Colombo Dialogue Meeting, December 2000:

- The First Planning and design meeting for a Global Dialogue
- Over 130 participants and 8 co-sponsoring agencies

the problems of developing countries and the poor segment of its population.

Food security in the development objective is defined to comprise access, availability and nutritional value of food at various levels from regional and national self-sufficiency to household level food security and livelihood. Agriculture is broadly defined to include food and cash crops, aquaculture, livestock and agro-forestry. Environmental issues include water quantity and quality and its relation to aquatic and land-based ecosystems, biodiversity as a value in its own right and goods and services provided by nature. The dialogue will explicitly address the cross-cutting issues of health and poverty.

Through the joint work facilitated by the Dialogue, rather than through diverse interest groups, it should be possible to close or at least to reduce the gap between the various constituencies. The dialogue process will go beyond global debates and discussions. A process is envisioned by which movements of multiple stakeholders carry the debate forward at various levels. Such a process will be supported by authoritative information, clear alternatives will be developed, presented and discussed and action promoted to overcome the divide. Ideally a self-sustaining process will define the future paths that are acceptable to a broad range of stakeholders in a given country or river basin.

A key component of the Dialogue will be the *national-level dialogue processes* that directly aim to develop a broad consensus on socially desirable strategies to develop and manage water resources for food security, livelihoods and environmental sustainability. This means building bridges among different groups of stakeholders and providing these stakeholders with credible and relevant information on options for actions and their impacts. These processes are not currently ongoing, but there are several proposals from ICID (in cooperation with FAO, IWMI, The World Bank and IFPRI) that aim to realise such dialogue processes.

Development of true cross-sectoral dialogues at the national level is a critical issue that is far from trivial. In many countries this is a highly political and very sensitive issue. The Dialogue proposed here will offer countries a neutral platform, embedded in an international process that lends it credibility and the support of a number of key international organisations. The Dialogue will also, through the Knowledge Base, feed credible and quality controlled information into the national-level dialogues—in fact, a two-way process is foreseen whereby the dialogues determine the information required and the organisations partnering in the Knowledge Base respond to these requests.

At the local level various action groups would initiate activities or programs that aim at overcoming the dichotomy between water for food and water for environment. It is at this level where practical solutions need

to be found, tested and concrete knowledge be created for the knowledge base. The Dialogue will encourage and provide a platform for information exchange of national movements similar to the Land Care Movement in Australia. At the regional level there would be opportunities for exchange of experience and possibly opportunities to address transboundary issues, for instance, the regional partnerships that are being developed by the Global Water Partnership. At the global level it is proposed to have an annual meeting where all those involved in the various components of the Dialogue come together for an exchange of experience and presentation of progress.

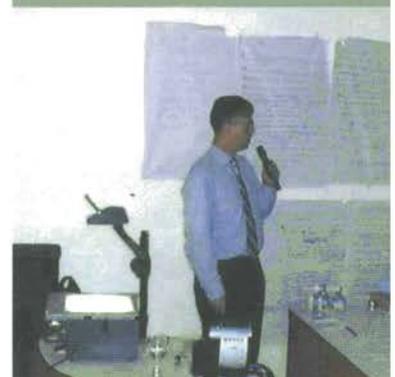
The Knowledge Base activities are expected to build on existing (major) activities from a number of partners in the water, agricultural, and environmental areas. The Dialogue would provide a conceptual framework that would improve the exchange of information among these components and would provide a level of synthesis of these activities that produces information directly relevant to the various national-level dialogues. Maximum use will be made of existing platforms such as Info-Finder and GWP-Toolbox. Funding will be required to fill in gaps in the Knowledge Base, to develop a conceptual framework, and to synthesise the knowledge.

To support the synthesis of “best practices”¹ information from the large number of ongoing action-projects and experiments at national and local/basin levels, the Dialogue would provide networking opportunities. The Dialogue framework provides a platform for various groups to interact with each other to communicate ideas, to build a knowledge base, and to exchange ideas and information on key actions. The key results would be the grounds to learn from each other and a cross-fertilisation of ideas. These will ultimately lead to very practical information on a set of exemplary or best practices suitable to a wide variety of conditions. There will be close co-ordination with the Knowledge Base to evaluate and synthesise this information. Groups will acquire their funding from various donors, and carry out activities, with the dialogue process providing a means to gain synergy between these various activities.

The final block of activities focuses on communication and awareness raising. It is recognised that to affect public opinion, considerable communication activities will be required beyond the stakeholders’ active involvement in the Dialogue process. To this end, a small group of high-level persons will be formed who will act as spokespersons, or Ambassadors, for the Dialogue. The Ambassadors will be particularly active at a select number of milestones. These will include: (a) annual Dialogue meetings at which all participants come together to report progress and exchange experience; (b) the Third and Fourth World

¹By best practices, we refer to exemplary practices under a given set of social and environmental conditions. It is not meant to imply that we will identify practices that will be suitable for every location.

The Colombo meeting concluded that there is an urgent need for more interactions between the agricultural and environmental sectors to evolve a shared vision on development and management of water resources.





The context is water management for agriculture in general—ranging from irrigated and rainfed agriculture, to large scale, small and micro-scale farming.

Water Fora; and (c) other major global milestones including the Bonn International Freshwater Conference, the Johannesburg Summit (Rio+10), the ICID Conferences and meetings of the UN Conventions.

Cross-Cutting Issues: Health and Poverty

Health

A range of water issues essentially determines the health status of communities, and human health therefore cuts across the three major areas of the World Water Vision:

- In *water for the people*, the focus is on the lack of safe drinking water and the transmission of diarrhoeal diseases and other gastro-intestinal infections:
- In *water for food security* the focus is on the impact of agricultural water development on the nutritional and health status of affected people and communities. On the whole the impact should be positive because it increases availability and accessibility of food through more production and lower prices. However, instances have been reported where the nutritional status declines in irrigation communities. The impact for hydrological changes caused by reservoirs and irrigation development and the associated consequences for the transmission risk of vector-borne diseases, the risk of increased exposure to pesticide residues and the degradation of groundwater resources through over-fertilization need to be assessed.
- In *water for the environment*, the evidence base for associations between natural ecologies, nature conservation and human health still requires substantial development. It is clear, however, that much of the “environmental services,” provided, for example, by wetlands, are important to sustain the health of communities depending on these ecosystems. Ecosystem health in river basins often equals community health.

The cross-cutting nature of human health through all water issues makes health parameters important among the indicators of success of the Dialogue activities.

Poverty

A broadly held goal is to achieve food and environmental security in a way that reduces poverty. It is possible to achieve national and global food security, and preserve ecosystems, in ways that can either contribute to poverty, or reduce poverty. Thus a specific focus must be placed on poverty across all exercises of the dialogue to ensure that issues of the poor are taken into consideration.

- In *water for food security*, water can be managed in such a way that it enhances rural livelihoods through income and employment, and urban livelihoods through readily available low-cost food. Access to water and the benefits derived from water use are incredibly important for the rural poor. In cases of increased competition, access is often taken away from the poor users. In cases of infrastructure development, the impact on the poor is often neglected.
- In providing *water for environmental sustainability*, the needs of the poor need careful consideration. It is essential that the rural communities are able to reap the benefits of ecosystem services and participate in decisions regarding the ability to sustainably and productively utilise ecosystems.
- It is usually the poor who will suffer most from water-related health problems.

Water for people
Water for food security
Water for the environment



Outputs and Activities



The Dialogue process will offer countries a neutral platform, embedded in an international process.

1. Cross-Sectoral Dialogues at National and Local Levels

The Dialogue process will have to ensure broad acceptance of its results. Important criteria in designing the process are:

- It must be open, clear, transparent and inclusive;
- It must involve a broad constituency and explicitly reach out to the “real” water users at micro-level—often poor people—who do not have access to the communication channels that participatory processes often rely on;
- It must be non-directive and based on voluntary collaboration;
- It must be based on bringing together existing initiatives, where possible.

1.1 National-level dialogues

It is recognised that actions that have the potential to affect the development and use of water resources will largely have to be taken at the national or local level. It is also recognised that most of the key water issues are already well known at the national level, and that there are already many ongoing actions to address these by line agencies, communities, and international funding. Even though integrated water resources management is broadly accepted as a concept, many people note that in reality, sectoral approaches continue to dominate and that actions taken at the water for food/environment interface may be inadequate. A large number of essentially independent but coordinated national dialogues among stakeholders will be conducted. Organizing committees composed of representatives of both national and international organizations will convene and lead the dialogue.

The national-level discussions will include the following specific aims:

- Raise awareness about the need and the means to integrate agricultural production and ecosystem maintenance
- Provide options for achieving food security
- Provide information about ecosystem functions and values
- Discuss linkages with/impacts on other water uses related to water for food and environment, particularly domestic and industrial water and wastewater issues
- Develop scenarios and discuss impacts of options for achieving food security in terms of food production, livelihoods, human health, poverty and environmental health/security
- Build bridges across sectoral perspectives

There are currently proposals from a number of organisations interested in leading or facilitating the national-level Dialogues (ICID, GWP, IUCN, FAO, and possibly also UNEP). One attractive possibility would be for a national organising committee to be formed in each country, representing various interests (e.g., national committees of ICID and IUCN where present, complemented by others). FAO has offered to play a facilitating role for such national Dialogues through its country representations. A first step will be the organisation of a workshop, where these organisations and partners from the countries interested in organising the dialogues jointly develop a framework of methodology and procedure. It is expected that there will be a preparatory phase in which

each organisation may initially be leading its own programmes with an emphasis on its own sectoral background in a process that will aim to evolve into a true cross-sectoral dialogue. The initial workshop will outline a process that strives for neutral grounds for a dialogue but recognizes practical elements such as willingness of various sector-based organisations to facilitate the meetings. Contributions from ICID, among others, have emphasised the importance of linking all “real” water actors into the national dialogues (figure 2).

each organisation may initially be leading its own programmes with an emphasis on its own sectoral background in a process that will aim to evolve into a true cross-sectoral dialogue. The initial workshop will outline a process that strives for neutral grounds for a dialogue but recognizes practical elements such as willingness of various sector-based organisations to facilitate the meetings. Contributions from ICID, among others, have emphasised the importance of linking all “real” water actors into the national dialogues (figure 2).

1.2 Local-or basin-level dialogues

One of the overwhelming recommendations of the Colombo meeting was that the global debate has to be focused on local issues, and that local stakeholders need to have a much stronger voice. Local dialogue will include local perception models, participatory rural appraisal, action learning and other appropriate methods of communication.

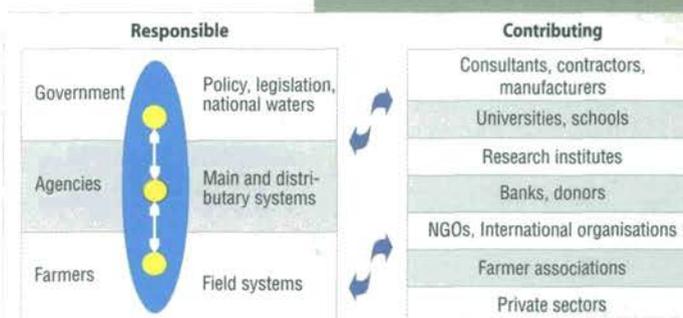
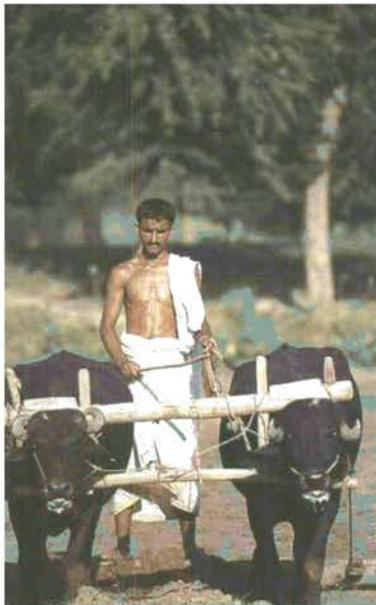


Figure 2. Indicative schematisation of actor in irrigated agriculture. (Source: ICID).



A two-way process is foreseen whereby the dialogues determine the information required and the organisations partnering in the Knowledge Base respond to these requests.

To make progress towards the extremely difficult goal of direct participation of poor water users, rather than their more affluent representatives, case study activities are also proposed. These case studies would explicitly focus on ways and means to get direct representation of those normally excluded—the poorest of the poor.

Participation of local people calls for information that is relevant and accessible. The programme will therefore help to translate key documents into local languages. This will require rigorous translation and editing, in order to avoid confusion of terms and to ensure that the meaning of statements is correctly reflected; distribution of the local language documents; and facilitation of discussions at key sites, to be defined through the national debate.

At this level, local discussions may centre on key national or international river basins to provide a mechanism to discuss development and management of water resources (international basins could also be tackled under the next heading, regional dialogues). In this manner, key water scarcity issues brought about by increasing competition can be addressed taking a basin perspective. It is suggested that 5–10 river basins be selected to focus on real, on-the-ground problems.

It remains essential that local information flows up to the national, regional and eventually global levels, and that information derived from the global-scale discussions passes down to local levels. One suggestion is to make sure that selected members of local dialogues participate in national and regional dialogues. Material from various dialogues should be prepared in local languages to facilitate use, especially when information passes from global or regional scales to local scales.

1.3 Outputs

- 1.1 Cross-sectoral dialogues *at national level* on desirable options to achieve food and environmental sustainability to reduce poverty and hunger and improve health in at least 15–20 countries (workshops, technical reports and public awareness materials).
- 1.2 Dialogues *at basin and local levels* on desirable options to achieve food and environmental security to reduce poverty and hunger and improve health in at least 5–10 river basins/case study sites (workshops, technical reports and public awareness materials).

2. Develop, Maintain and Improve the Knowledge Base

The Knowledge Base (KB) will serve as a source of credible information for the various Dialogue activities and hence for the process of integrated land and water resources management in general. Several key

outputs (such as IWMI's Comprehensive Assessment and IUCN's Water Resources and Wetlands e-Atlas) will provide a global frame of reference for evaluation of past development and the generation and evaluation of options for future development and management. Key components of the KB would be formed by ongoing activities (see Annex 1 for descriptions):

The KB would also be the platform to synthesise and evaluate the outcomes of a large number of pilot-projects and experiments with action-oriented activities at the basin and local levels, through interaction based around the KB Website. Knowledge is built by people in possession of information. The KB will endeavour to become a 'community of practice' for those concerned with managing food security and environmental sustainability.

Knowledge about water, agriculture, socio-economics, and ecology, is mostly sectoral and highly specialised. There has not been adequate concrete action to pool this knowledge to address critical topics. For instance, FAO provides long-term scenarios on food security and UNEP develops global environmental outlooks, but these two exercises have not yet been linked. Environmental impacts of the food security scenarios have not been assessed. In previous exercises such as the World Water Vision, it was found that there are also significant knowledge gaps including knowledge of key processes in addition to gaps in information and data that restrict the extent to which we can formulate or implement policies for the future.

The objectives of the KB are to:

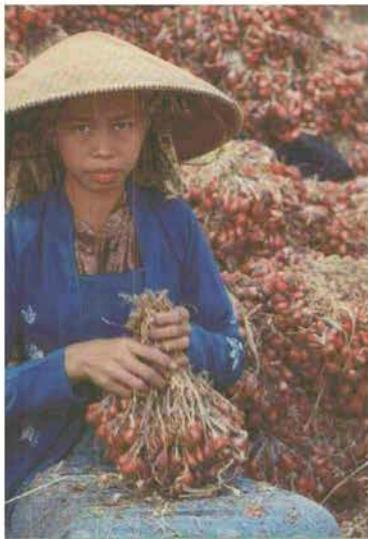
- To promote open access to shared databases and seek to establish common terminology.
- To establish knowledge acceptable by both agricultural and environmental constituencies, particularly on alternative development paths or scenarios and on their consequences and impacts.
- To feed information and experience into the dialogue process.

The Knowledge Base consists of 3 main components:

1. **Knowledge support to national and basin dialogues.** Through dialogues, important issues and problems that need knowledge support will be identified. The KB should provide tools for analysis, and access to databases and analysis.
2. **Thematic areas.** The knowledge base will support activities along key generic themes that will facilitate dialogue discussions and actions. Thematic areas include *improved information, innovative approaches, analysis of interventions, and scenario development.*

- Cross-sectoral dialogues at national and basin/local level
- Common definitions on water, food and environmental security
- Exchange of practical experience
- Synthesis of best practice information





The Knowledge Base—the platform to synthesise and evaluate the outcomes of the large number of pilot-projects and experiments with action-oriented activities at the basin and local levels.

- 3. Dialogue support tools** including conceptual and analytic tools that support dialogue activities, and tools to facilitate discussions during the dialogues themselves.

In addition, the KB will provide a mechanism for providing common definitions of terms, and common indicators to be used throughout the Dialogue process. The KB will support the development of a Clearing-house Information system (an “Exchange”), providing a mechanism for information networking, and for open access to information generated.

This framework calls for the participation of Contributors – those organizations, projects, or individuals that are working in the field of water-food-environment. Contributors will manage their own programs, activities, and budgets, and contribute knowledge to fill gaps about the most critical water questions of our times. The Dialogue and Knowledge Base will provide a means of identifying important questions and knowledge gaps, providing information and a means of networking for Contributors.

2.1 Conceptual framework

At the centre of the Dialogue process is a discussion of values—nature conservation, economic development, and national food security. An intervention to use water for food security, for example, has consequences for nature and for people, and their local economies. Individuals will judge its outcomes, based on these values. Future objectives for water use projects will be based on what people value, and assessments of their success or failure will be based on indicators of those values. The Knowledge Base will not attempt to define what values are right or wrong. Rather it will provide a body of information to help people understand to what degree objectives related to values have been met; to help identify and evaluate the societal and environmental consequences of the trade-offs and to assist in the process of negotiation between stakeholders.

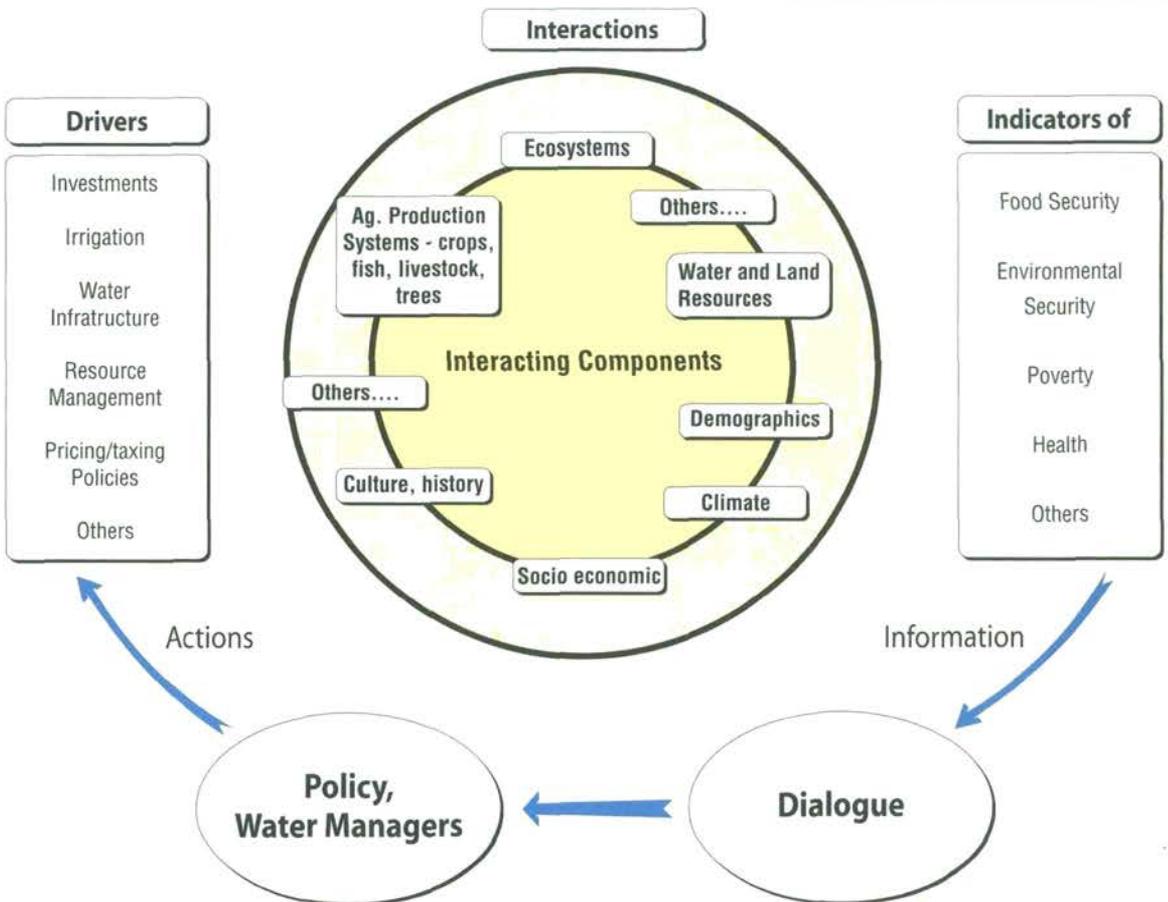
A key function of the Knowledge Base will be to identify and evaluate quantitative and qualitative indicators of these values. For example, the quantity, temporal flow patterns, and quality of water remaining in surface water bodies might serve as indicators of the health, sustainability, or resilience of aquatic ecosystems and the services that they provide to local communities. In evaluating the societal and ecosystem consequences of past actions, the knowledge base will identify important and contextual determinants, and use them to construct alternate paths to the future. To develop the indicators, the Dialogue Secretariat will facilitate a process where actors within the knowledge base will interact with the dialogue components to identify determinants at an early stage. As for every other component, there will be close co-operation here with other

actors pursuing similar objectives, such as, the United Nation's World Water Assessment Programme.

Obtaining these indicators requires an understanding of the complex interactions between subsystems at play as shown in figure 3. Technologies and resources have been developed and adopted, and policies implemented to achieve certain goals—more food production, more income, protection of the environment, and so forth. Human interventions, particularly with water and land, tend to have consequences beyond a narrow set of intended results because of the complex interactions between and amongst natural and man-made systems.

The focus will be on key drivers that can be changed in order to reach the desired results. The knowledge base will inform the dialogue process through indicators. The dialogue process is the main mechanism to reach policy makers and water managers who ultimately influence the drivers.

Figure 3. Framework for the Knowledge Base.





The best practice identification will help tap the widely accepted best practices for a variety of situations.

The proposed strategy to build the Knowledge Base is to link the substantive ongoing activities of the Dialogue Consortium partners and others that want to contribute to the Dialogue. While each of the individual programmes will be responsible for generating their own funding and for managing their own programmes, their participation in the Dialogue will be beneficial to them by providing opportunities for collaboration and cross-fertilisation, presenting results, and obtaining feedback on their programmes.

The first Knowledge Base activity was a workshop to define its framework, methodology, and nature, involving a large number of those who expect to contribute to the Knowledge Base. This workshop was held in August 2001, parallel to the Stockholm Water Symposium.

2.2 Outputs:

The Knowledge Base is meant to produce output that will significantly improve our knowledge about water needs for ecosystem maintenance and water management for agriculture, and its related impacts on environment, health, poverty and food security. The output will provide key information for policy and investment decisions, and thereby contribute to the long-term objective of positively affecting peoples' lives, food security, and the environment. The output of the effort will consist of a rich range of reports, scientific publications, presentations, and multi-media material covering a broad range of topics, and will lead to:

- A catalogue of existing knowledge bases and synthesis of knowledge available and knowledge gaps.
- Common definitions regarding water, food security, and environmental sustainability, etc. and common indicators of poverty, hunger, health, environmental quality etc.
- *Established* information, analyses, and projections regarding water availability use and requirements for agriculture, environment and other uses, and impacts made available for the Dialogue process.
- Scenarios at global, national and basin level concerning alternative options to develop and manage water resources for food security, and environmental sustainability.
- Assessment of impacts on food security, hunger, poverty, livelihoods, health, environmental quality and biodiversity of alternative scenarios.

3. Platform to Support Field Activities and Identify Best Practices

Many organisations are currently planning or implementing water-saving projects, experimenting with innovative technologies, policies and institutions at scales ranging from household and communities up to the river basin. These range from water-saving competitions organised by ICID's WATSAVE and a GEF project in Central Asia, to small-dam programmes of CARE, the Framework for Action Activities of the GWP and its regional and national organisations, the IPTRID programme, etc. Perhaps even more important than these are the activities with national and private funding that do not receive the same attention as those obtaining international support. It is proposed here that a loose form of co-ordination, exchange of experience, synthesis into the Knowledge Base, and contacts with the various forms of Dialogue, would provide added value to these various activities. The end results would be the identification of widely accepted best practices for a variety of situations, and implementation of innovative solutions to solve water for food and environment problems.

3.1 Information exchange platform

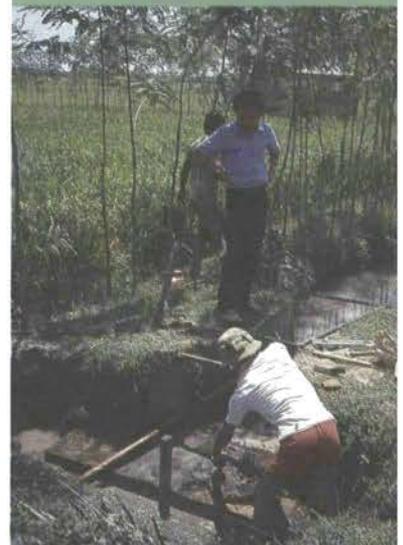
There are many community-level activities taking place that are still fairly sector-bound and restricted in their scope and breadth, but no less important in what they are trying to achieve. The practitioners of these small-scale activities often do not have the time and resources, or the access to international networks, to make their experience accessible to others, or to have a structured process in place to draw lessons from their experience. The Dialogue proposes to set up (probably regionally) platforms through which organisations that implement local action projects may exchange information and experience. This can be implemented through websites, newsletters, workshops and other forms of structured and facilitated information exchange. An example could be the regional workshops focusing on the exchange of cross-sectoral innovative water saving and water resources management experience (possibly linked to the activities of local or regional professional societies). The result of this would be improved coordination and exchange on information and experience between sectors. The environmental NGO *Both Ends* (the Netherlands) is, for example, developing proposals to organise such information exchange among NGOs involved in sustainable catchment management.

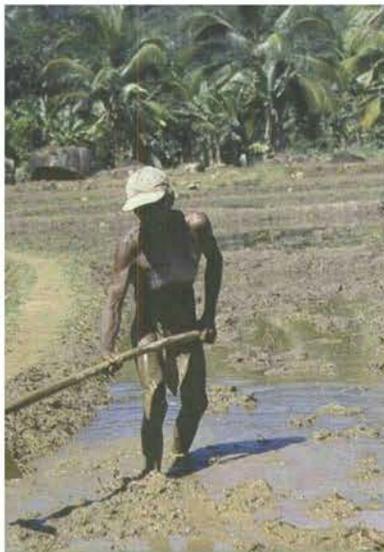
3.2 Best practice identification

In addition to the exchange of information and experience described above, this experience could be given added value through the identifi-

Field activities include:

- ICID's WATSAVE Programme
- Water-saving competitions organized by a GEF project in Central Asia
- Small-dam programmes of CARE
- Framework for Action Activities of the GWP and its regional and national organisations





A communication strategy is foreseen as crucial to have impact.

cation of best practice. It is proposed to identify groups that have experience with local action projects willing to participate in such a synthesis of their experience. The best practice information will generate generic lessons that can be drawn from the local action projects and can be fed into the Knowledge Base. This provides the link through which the local experience becomes more widely available and accessible. The local action information and experience, synthesised in “best practices” can also be fed, directly or indirectly (through the Knowledge Base) into the national-and local-level dialogues.

The international development NGO, *CARE* has recently agreed to cooperate with IWMI to assess its experience with hundreds of small dam projects.²

3.3 Outputs

- 1.1 Exchange of practical experience at the local level among the practitioners.
- 1.2 Synthesis of best practice information based on the experience gained in thousands of local action projects. Better actions taken at the local scales as a result of this interaction.
- 1.3 Inputs of local experience into the dialogue processes at the national and basin/local levels.

4. Develop and Implement a Communications Strategy

Communication of the Dialogue results will be crucial to ensure an impact beyond those directly involved in the process. To this end the Dialogue partners will make efforts to have the water, food and environment issues adequately represented at key meetings or milestones as outlined below, and in the media. A key mechanism for the Dialogue would be the public relations activities of eminent personalities—the Dialogue Ambassadors. The activities of the Ambassadors and the representation of Dialogue partners at major meetings will be supported by a professional communications campaign.

4.1 Dialogue Ambassadors

To raise the public awareness of the issues that come up in the Dialogue process, a number of eminent persons will be asked to act as Dialogue Ambassadors. It is expected that a small number of Ambassadors, at least one from each major region or continent would represent one of the key sectors. These persons would speak for the Dialogue, but will not be re-

²This information is available in *CARE* archives and through their experienced staff in various country offices but not, to date, analysed by anybody.

responsible for the results. Responsibility for the results remains with the groups carrying out the activities that use the Dialogue process as their joint “flag” to increase their impact. The Ambassadors would be particularly active during or around a number of key events or milestones as described hereafter.

4.2 Annual Dialogue meeting

All those involved in national dialogues, Knowledge Base activities and local action projects would have an opportunity to meet annually. Legitimacy of the whole exercise would derive from those involved in it—there would no longer be an attempt to produce a global-level report with all-encompassing authority, other than that derived from those producing such a report (the partners in the effort).

4.3 Presentations at the Third and Fourth World Water Fora

The World Water Forum events will be key milestones for the Dialogue process. At the third Forum in Kyoto, Japan in 2003, interim results will be presented through the following type of activities:

- Report on Dialogue process.
- A discussion forum to address key issues raised during national and local dialogues.
- Presentations of key findings of the Knowledge Base such as an assessment of the benefits and costs of irrigation, the importance and contribution to groundwater, key issues in water for food and environmental security.
- Presentations on issues about water and health related to food and environmental security.
- Various options described and analysed for meeting the objectives of food and environmental security, with discussions on how these can be refined and implemented.
- Presentations on local-scale actions related to food and environmental security, drawing out the best practices and the lessons learned.

The Fourth World Water Forum, in 2006, would be the final milestone for the Dialogue process. The key results will be:

- Report on the results and achievements of regional and local dialogues and results from the knowledge base and activities in the field.
- Presentation of results and findings of the Knowledge Base.
- Options at global, national and local level described and analysed.

The “Dialogue Ambassadors” will speak for the Dialogue and will represent each major region or continent.



4.4 Presentations at other important meetings

There are several other important meetings at which the Dialogue can be represented and through which the water, food, and the environmental issues can be brought to the attention of large groups of stakeholders:

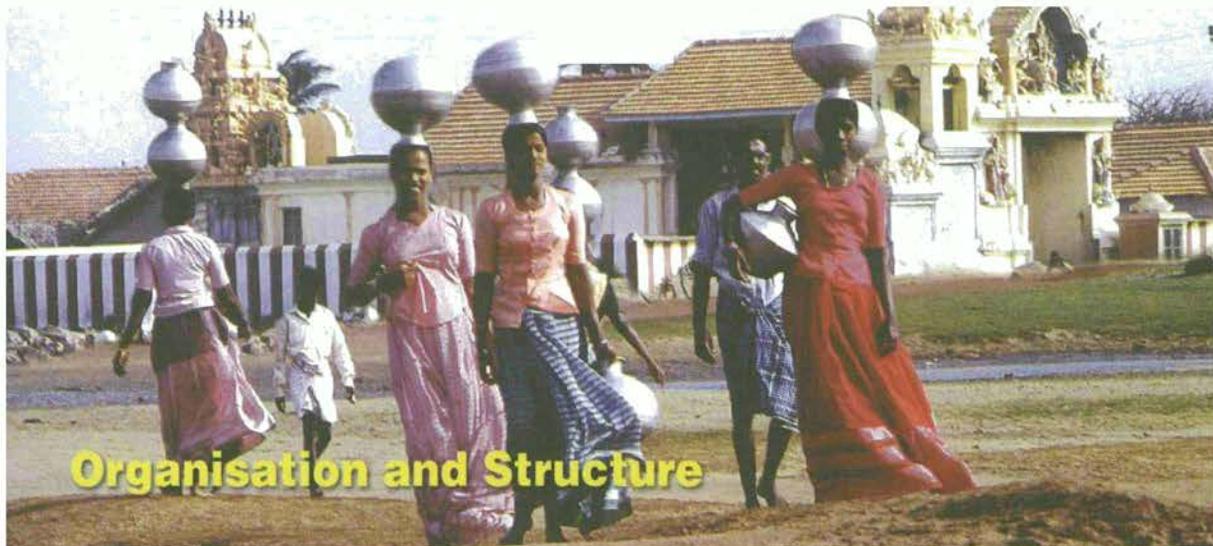
- August 2001-2006: The annual Stockholm Water Symposium provides excellent opportunities for the Dialogue events. The Dialogue launch and the first design workshop were held during the 2001 Stockholm Water Symposium.
- In December 2001, the International Freshwater Conference in Bonn will allow for a presentation on the Dialogue, side-meeting with key stakeholders and (just prior) the 2nd Dialogue workshop on methodology for the national dialogue processes.
- A progress report could be presented during the 6th COP of the Convention on Biological Diversity in the Netherlands in April 2002 and at the 8th COP of the Ramsar Wetlands Convention in Spain in November 2002.
- September 2002, key presentations should be made at the Johannesburg Summit.
- Progress should also be reported to ICID meetings—16–21 September 2001 ICID Council in Seoul, and ICID Congress from 21-27 July 2002 in Montreal.
- In late 2002, there might be an annual dialogue meeting to review progress for the Third World Water Forum in Kyoto. This meeting may be linked to Ramsar COP8 or the Johannesburg Summit.

Additional important platforms will be identified during the process.

4.5 Outputs

- 1.1 Annual Dialogue meetings of all partners and participating organisations that raise the issue on the global political agenda through press releases, interviews and presentations of Dialogue Ambassadors.
- 1.2 Presentations at key meetings: Bonn Freshwater Conference, Rio+10, Third World Water Forum, ICID Congress in Montreal 2003, and meetings of the UN Conventions and others as appropriate.

There are several important meetings at which the Dialogue can be represented and through which the water, food, and the environmental issues can be brought to the attention of large groups of stakeholders.



Initial discussions at the Colombo planning and design meeting focused on creating legitimacy for the Dialogue through a new structure (a “Forum” through which a large number of stakeholders would be democratically represented)³. Subsequent discussions among the organisations involved in the planning (the Dialogue Working Group) rejected such a Forum as unrealistic, since it would never reach the proper level of representation required for credible outcomes. Instead, the organisations felt that this legitimacy could better be derived from the partner organisations themselves (i.e., the mandates of FAO, UNEP and WHO as UN organisations and the legitimacy of the membership and mandates of the others).

Organizing Principles

The key organising principle of the Dialogue is that all central activities are to be minimised and the responsibilities of the Dialogue partners are to be maximised. The Dialogue is a temporary, project-like organisation and not meant to develop into a permanent structure. The end-date for the Dialogue process is the Fourth World Water Forum in Montreal, in March 2006.

The Dialogue partners underwrite the following organising principles:

1. The Dialogue activities will focus on building cross-sectoral bridges between planned and ongoing sectoral activities and projects related to water, food/agriculture and environment.
2. The Dialogue partners will maintain a small Secretariat for a limited number of central Dialogue activities. The large majority of activities under the Dialogue umbrella will be carried out by the partners to achieve the intermediate and immediate objectives, and managed directly by the implementing agencies.
3. The Dialogue partners will jointly raise funds for the central activities, but individually for their activities.
4. Central activities will consist of:
 - a communications programme;
 - development of methodologies for the key components;
 - support for development of the key components, particularly the setting up of national Dialogue activities, through workshops and commissioned papers;
 - loose coordination of activities in all three main blocks; and
 - synthesis of efforts through commissioned papers where relevant.

³Another possibility would be a small group of distinguished individuals, but given the two World Commissions the water sector has recently seen, this was considered not a realistic option.

Consortium

The eight organisations in the Working Group (FAO, GWP, ICID, IUCN, IWMI, UNEP, WHO, WWC) decided at their first meeting (8-9 March, at FAO in Rome) to work towards establishing a Consortium to implement the Dialogue. Since then WWF and IFAP have joined the group. The Dialogue will be formally ratified through the adoption of arrangements for the establishment of a Consortium. The Consortium partners will be: (a) international organisations with a considerable stake in the water, food, environment areas, (b) willing and able to contribute significantly to the Dialogue, and (c) add to the breadth and depth of the group. Other organisations that fit these criteria will be able to join the initial eight organisations. There is an identified need to strengthen the initial Consortium with, at least, (a) an organisation representing farmer interests; (b) another environmental NGO; and (c) an organisation representing private sector interests.

The main tasks of the Consortium will be to:

1. Manage and supervise the central Dialogue activities.
2. Represent the Dialogue to donors, interested parties or the media.
3. Promote the development of a central approach and methodology, shared terminology etc. and review of central Dialogue outputs through the appointment of a Scientific and Technical Advisory Panel (STAP).
4. Approve Dialogue methodology papers, press releases and other "central" Dialogue outputs.

The Dialogue partners will meet regularly through e- or tele-conference and at least once a year through a physical meeting. In between meetings the Dialogue Chairperson and Director of the Dialogue Secretariat represent the Consortium. During the meeting of 8-9 March, 2001 the Dialogue partners elected Frank Rijsberman, Director General of IWMI, to be the first Dialogue Chairperson.

Participating Organisations

Other institutions, agencies and foundations can become formally associated with the Dialogue Consortium as Dialogue Participating Organisations. The intention is to involve organisations and groups that subscribe to the Dialogue objectives and are active at local or basin level. As a result, a movement could be created that promotes integrated land and water development within a framework of environment sustainability. A procedure for the establishment of such an association will be worked out by the Consortium and through a series of local action workshops.

Secretariat

The Dialogue partners will establish a Dialogue Secretariat to coordinate the agreed central Dialogue activities. The partners accepted an offer from IWMI to host the Dialogue Secretariat and provide it with office space, office facilities and a seconded senior secretary cum office manager free of charge.

The planned staffing of the Secretariat is as follows:

1. Director (senior person able to have high level communications with governments and other senior officials of Dialogue stakeholders and partners);
2. Knowledge Base Liaison Officer: Junior level scientist linking specifically the Knowledge Base activities;
3. Action Platform Liaison Officer: Person with considerable action/ field experience, linking specifically to the Network of Local Action Projects;

4. Short-term/part time experts as needed for programme development (on secondment from Dialogue partners, or recruited as consultants);
5. Secretary/office manager.

The Terms of Reference for the Secretariat and the job description for the Director are annexed to this document.

Since the Dialogue will not have its own legal persona, its staff will be contracted by the host-organisation, or one of the Consortium partners, and seconded to the programme. Accounting, administrative and management services will be provided by the host organisation.⁴

The main tasks of the Secretariat are to manage the central Dialogue activities on behalf of the Consortium and specifically to:

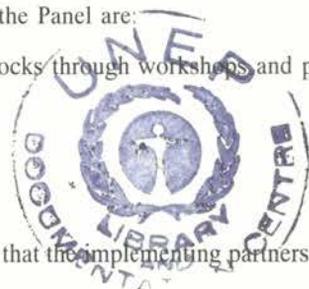
1. Develop and manage the communications programme and support the Dialogue Ambassadors and the Chair.
2. Promote the development of, and fundraising for, the main three blocks of Dialogue activities: national and local Dialogues, Knowledge Base and Local Action Platform.
3. Organise Dialogue workshops and other meetings.
4. Co-ordinate (loosely—primary responsibility remains with the implementing partners) the actions within the three blocks of activities.
5. Commission synthesis papers in areas where the ongoing actions of the Dialogue partners can be aggregated or pulled together for wider audiences.
6. Liase with related efforts in the water/agriculture/environment areas and with organisers of the key meetings on behalf of the Consortium.

Scientific and Technical Advisory Panel (STAP)

In order to provide quality assurance over centrally commissioned Dialogue outputs and promote the development and quality of the Knowledge Base, the Consortium will establish a Scientific and Technical Advisory Panel. The Panel reports to the Consortium.

The Panel will consist of 10–12 “working level” scientists, drawn largely from the Dialogue partners from the water, agriculture environment and health fields. The main tasks of the Panel are:

1. Develop the methodologies for each of the key Dialogue activity blocks through workshops and possibly commissioned papers.
2. Review the quality of the outputs of the central Dialogue activities.
3. Form a liaison platform for the key partners in the Knowledge Base.
4. Organise an independent peer review process for all Dialogue outputs that the implementing partners submit to it on a voluntary basis.
5. Advise the Consortium on areas where further synthesis work would have added value or where new activities are required to fill important holes in the ongoing activities.



⁴IWMI offers to provide separable services at cost as charged internally to its own programs, and inseparable services (such as accounting and general overhead) at 12% (half the full overhead) for the Secretariat’s budget and 3% for flow-through funds.

Sponsor Group

A Dialogue Sponsor Group will be developed for which Bert Diphooorn of the Netherlands Ministry of Foreign Affairs has accepted to be the Chair. Other countries that have shown an interest to participate are, to date, the UK, Japan, Germany, Denmark and Sweden. The Sponsor Group would meet at least annually to review progress of the Dialogue and evaluate funding needs and opportunities. The Dialogue Consortium would jointly submit the proposal for central or core activities to the Sponsor Group. Other activities under the Dialogue umbrella would be submitted by the partners undertaking the activity to the Sponsor Group or individual members. The Sponsor Group will be open to all potential contributors (governments, foundations, corporations) along the lines of the model used by the World Commission on Dams.

Budget (2001–2006)

There will not be a large funding mechanism directed by a group from the Dialogue to redistribute funds to competing proposals. Instead, the Dialogue process will provide a framework to contribute towards major projects, where the various actors will raise their own funds.

Dialogue activities are starting up in 2001 (the launch took place in August 2001 at the Stockholm Water Symposium) and will end at the Fourth World Water Forum in March 2006. Because most donors and Dialogue partners work with calendar year budgets, the Dialogue budget is set up in calendar years as well. The year 2001 is a partial or start-up year. It is proposed to define the first phase through calendar year 2003 and a second phase for the period 2004 through March 2006.

The central or core Dialogue activities are only a small part of the total Dialogue activities (i.e., the three main blocks of activities) but these are budgeted and funded separately. An overview of the current planned activities is provided in Annex 1. Other organisations are likely to join and add their contributing activities to the Dialogue. An indicative budget on the three blocks of activities is also provided.

Budget for the Dialogue Secretariat and central activities (in K US \$).

Secretariat:	2001(partial)	2002	2003
Director (expatriate in Colombo)	75	150	150
Knowledge Base Liaison	15	70	70
Action Platform Liaison	20	70	70
Expertise seconded	75	85	85
Secretary / office manager	IWMI	IWMI	IWMI
Office space	IWMI	IWMI	IWMI
Office facilities	IWMI	IWMI	IWMI
Office equipment	15	10	10
Office supplies	5	5	5
Printed materials / brochures	30	40	40
Travel	50	80	80
IWMI overhead (12%)	35	60	60
Subtotal Secretariat	320	570	570
Central Activities:	2001	2002	2003
Workshops / meetings	100	150	150
Communication	100	300	300
Ambassadors (mostly travel)	50	100	100
STAP (travel, meetings)	50	100	100
Synthesis work	50	200	200
Miscellaneous	25	50	50
IWMI overhead (3%)	10	30	30
Subtotal activities	385	930	930
Total Central Dialogue	705	1,500	1,500

The indicative budget for Dialogue on Water, Food and Environment.

Dialogue	Phase 1: 2001-2003 (M US\$)	Phase 2: 2004-2006 (M US\$)
Planning and design of dialogues	From secretariat	0
Preparation for national and basin level dialogues (30 locations @ 150,000 per location) plus organisational support (from groups like ICID, IUCN, ...@ 1.5M	4.0	2.0
Conducting of national-and basin-level dialogues (30 locations x 5 meetings x 30K per meeting) plus organisational support @ 2.5M	3.0	4.0
Synthesis of dialogue information and reporting	0.5	0.5
Global dialogue events – 3 rd and 4 th WWF, ICID meeting, Rio + 10,...	0.5	0.5
Subtotal	8	7
 Knowledge Base		
Planning and design of Knowledge Base	From secretariat	0
Knowledge components (benefits and costs, new information, impact on ecosystems and environment, future directions)	10	10
Joint evaluation of best practices (agriculture/ecosystem)	2.0	3.0
Synthesis of material, presentation, publications	0.5	1.0
Scenario development, modeling and presentation	1.5	1.0
Subtotal	14	15
 Actions		
Network development	0.5	0
Networking activities (communication, meetings)	3.5	4.5
Capacity development (farmer to farmer/resource manager to manager training, site visits)	1.5	2.0
Subtotal	4	5
Total	27.5	29

The above budget is an indication of the types of activities and order of magnitude of their costs that are expected to be carried out in the framework of the programme. Specific proposals will be developed for the various activities listed, particularly through the design workshops planned for each component. Part of the costs estimated above will be borne by ongoing programmes of the partners, as part of their regular budgets, or through other, related, projects and programmes.

ANNEX 1: Dialogue Activities of the Partners

FAO

1. Contribution to country and river basin dialogues

The dialogue partners agree on the overwhelming importance to launch a series of country and river-basin dialogues to take the debate to locations where the real problems are. FAO has a specific capacity to convene country and basin dialogues because of its status as a neutral UN agency supported by member countries, its extensive network of country representations and access to governments and stakeholder organisations alike. FAO would volunteer to organise and conduct consultations in six to eight country or river basin dialogues over the coming 24 months.

Classification

For the purpose of developing suitable approaches countries and river basins can be clustered into the following categories:

- Low-income, water-scarce countries that have a conflict between the food production objectives and environmental objectives. The conflict is mainly about water quantity e.g., diversion for irrigation versus in-stream flow requirements. Important issues are poverty alleviation and national food security. Examples include selected river basins in India and China, Iran, Zambia, Swaziland, others?
- Low-income countries having scarce water resources that drain into vulnerable inland water bodies. The conflict is about water quality and quantity. An important issue is the transboundary nature of the water resources. Examples include Lake Chad, Okavango swamps, Lake Malawi.
- Countries in transition that have a production and export earning objective. The conflict is mainly about water quality and health. Rivers may drain into vulnerable inland water bodies or affect downstream countries. Examples include Ukraine, Carpathian sub-basin, Mexico, Turkey, Aral Sea countries.

Approach

FAO will develop specific approaches for each type of cluster. It is assumed that the Dialogue Secretariat will support the effort through provision of conflict resolution methodologies, statistics, and models. Special studies on causes of the conflict and development options will be commissioned in each case. Criteria for the selection of case include:

- There is a real conflict on water (quantity or quality) and the environment;
- There is a potential for win-win solutions or acceptable trade-offs;
- Partners are willing to dialogue and prepared to accept wide stakeholder participation;
- There is a national institution that is driving the dialogue;
- There are linkages to on-going operations of external support agencies (GEF, WB, ADB, FAO-TCP and others for follow-up).

Details of the approach will differ from one case to the other. A standard process for a country dialogue could comprise the following steps:

- Identification of issues.
- Establishment of contacts to national institutions. Establishment of the interest in the dialogue and openness to wide stakeholder participation.
- Commissioning of background studies, calibration of models, logframe preferably to small teams of national and international consultants.
- Stakeholder dialogue. The external contribution will consist of facilitation, option assessment, and calibrated models to study what/if questions, methods, and translation of key documents.
- Establishment of a self-supporting process.
- Formulation of proposals for policy reforms or specific action plans.
- Monitoring and reporting on the process. Ad-hoc assistance if required.

Expected results:

A self-supporting process of dialogue among stakeholders has been established. Rational methods for decision-making are used. National water policies have been adjusted. Win-win solutions or acceptable trade-offs have been identified. Action plan formulated and implemented.

2. FAO contributions to the knowledge base

FAO will contribute to the knowledge base in several ways either through its normative programme or through special studies in the context of the dialogue that requires extra-budgetary support:

1. Database on food production and security

FAO maintains a database and analytical tools to identify and analyze global trends in food production and food security. This is achieved through continuing work on FIVMIS and FAO-STAT. No additional resources are required.

2. Database on rural water use

FAO maintains a database on agricultural water use (Aquastat). AQUASTAT consists of verified, country-based data that provide information on rural water use. AQUASTAT is complete for all developing countries and five regions. Regular update is required through a network of national correspondents. Some resources are made available through the Regular Programme and in the context of the work on the World Water Development Report.

3. Mapping of irrigation

There is an urgent need to independently verify the extent of irrigation in a close to real time mode to supplement information contained in AQUASTAT. Recent advances in the remote sensing technology are promising. A methodology will be developed and tested in one country to assess the extent of irrigation. Project will be implemented in close cooperation with FAO, IWMI, Bastiansen Institute, NOAA.

4. Assessment of the potential of rain-fed agriculture, water harvesting, innovative approaches

There is an urgent need to assess the potential of improved rain-fed agriculture using moisture conservation and water harvesting technologies of different kind. A model will be developed that allows the assessment of the potential and of the economic feasibility of water harvesting technologies from existing information on climate, soil, terrain, agro-ecological zones. The model will be applied in Sub-Saharan Africa and dry zones of Asia. The project will be implemented in close cooperation with FAO, IWMI, IHE Delft, UNI Karlsruhe and ICARDA.

5. Estimation of sustainable groundwater use

Much of the recent expansion of irrigated agriculture is based on groundwater use. There is conflicting information on the sustainability of present abstraction rates. Some reports say that 10 percent of the world food production is based on unsustainable groundwater use. It is urgent to consolidate existing information and recommend policy changes that lead to sustainable groundwater use regimes.

6. Study on irrigation and poverty alleviation

There is some evidence that irrigation development has a positive effect on poverty alleviation either through directly improving food security of rural households or indirectly through linkages to the service and food processing sector. A study is suggested to establish, and if possible quantify these effects with the objective to provide justification for the redirection of investment back into irrigated agriculture.

FAO has already allocated resources and is working on a concept of the study.

7. Other contributions

FAO is willing to share with other partners in and outside of the consortium results of its normative work on water saving in agriculture, water use efficiency in the river basin context. Additional joint studies may be required for consolidation and verification.

GWP

Key activities of the GWP related to the Dialogue

Water-food security was identified in the FFA as one of five priorities that has to be tackled urgently if the Vision is to be achieved. Unfortunately it was not a prominent issue at The Hague and the GWP will lobby to ensure this is redressed in the Follow-Up process. The GWP aims to bring together partners representing a multi-stakeholder and cross sectoral constituency in order to reduce fragmented water resources planning and management. The Dialogue Consortium thus fulfills GWP's mainstream objectives. In general terms, the GWP will help the Consortium to raise awareness of the water/food/nature dichotomy and promote modern thinking to overcome narrow and entrenched sectoral perceptions and help to overcome institutional barriers to change.

The GWP will contribute to various activities at both the central and regional levels that have been planned and included in the GWP Comprehensive Work Programme and FFA Follow-Up for 2001 to 2003. The regional partnerships will provide a neutral platform for national and regional dialogues and gather information on local actions. Examples of relevant actions include:

- GWP Central America has planned to hold a regional workshop and prepare background papers related to the Dialogue.
- GWP Central and Eastern Europe plan to hold country consultations, carry out background studies and finally organise a regional Dialogue workshop.
- GWP Mediterranean will prepare a special study on water food and environment related to private sector participation in irrigation. MEDTAC and SAMTAC regions will also exchange experiences of irrigation institutional reform.
- GWP South Asia plans to hold dialogues on dams and development.
- GWP West Africa will hold local dialogues on key issues.

The above list gives the preliminary ideas of the regions following the Wallingford launching meeting and will be developed further as part of the Dialogue process. In addition, all the GWP regions will document initiatives and actions related to the FFA and regional Vision to Action reports including those specific to water, food and environmental security. Funding has already been secured for 2001 to start these activities.

At the central level the GWP is examining several initiatives relevant to the Dialogue. Appropriate activities under various GWP Associate Programmes will be fed into the dialogue process. In particular the GWP will work with WWF, IUCN and others to further develop the proposed Associated Programme on ecosystems and IWRM based on the findings of the November 1999 GWP workshop at the Beijer Institute in Stockholm. A draft proposal will also be developed to establish a special study on water, food and trade. The GWP will work with other consortium members and IFPRI. This will bring out-of-the-box players into the Dialogue and help water professionals to understand trade issues and their implications on water management. Experiences of diversifying economies from agriculture to other sectors will be also included. The GWP will participate in the existing DFID-funded research programmes, such as that for irrigation charging, and incorporate the findings in the dialogue roundtables.

ICID

Key activities of the international commission on irrigation and drainage (ICID) related to the dialogue on water, food, and environment

Future role of irrigation and drainage in food production and rural development. Support to development of country policies.

During the preparation of the Sector Vision on Water for Food and Rural Development, which was prepared for the Second World Water Forum, more than forty National Committees of the International Commission on Irrigation and Drainage (ICID) have prepared Country Position Papers. These papers are available on ICID's web site: www.icid.org. Several of the Country Position Papers were prepared with input from IWMI's PODIUM model. In the past period ICID has prepared in co-operation with FAO, IWMI, IFPRI, IPTRID and The World Bank a proposal for a joint programme on 'Future role of irrigation and drainage in food production and rural development. Support to development of country policies.' The proposal aims at improving the Country Position Papers that were made by the National ICID Committees in conjunction with the improvement of the PODIUM model of IWMI and the IMPACT model of IFPRI. The proposal has a broader scope

than the dialogue. This makes it possible that for the five concerned countries: China, Egypt, India, Mexico and Pakistan the dialogue can be put in a broader perspective as well. The country dialogues as specified in the Dialogue proposal can for the concerned countries be included in this proposal. There is room to add other countries to the proposal as well.

Benchmarking in irrigation

The World Bank/IPTRID/ICID/IWMI are developing a project on benchmarking in irrigation. The benchmarking activity has as its major objective to promote benchmarking on a routine basis in irrigation and drainage agencies, as the Australian ICID Committee is doing perfectly. IPTRID is the driving institution for this activity. At present, fifteen National ICID Committees have agreed to join in this activity. The results of this activity can be reported in the Dialogue as well as they are reported at the annual ICID meetings.

The ICID knowledge base and Text Delivery Service

ICID's Central Office in New Delhi, India houses a library with 29,000 publications on irrigation, drainage and flood control. This is a tremendous knowledge base. It also includes an incredible amount of congress, conference and workshop papers and articles in ICID Journals over the past 50 years of ICID's existence. All this information can be accessed now through the ICID web site. In addition, ICID offers a Text Delivery Service on its web site. The Text Delivery Service is part of the existing IPTRID network.

ICID's WatSave programme

ICID started in 1993 with its WatSave Work Team. *WatSave* stands for Water Saving in Irrigation. The team has published various valuable documents. A CD-ROM is in preparation with all relevant information.

IFAP

Policy dialogue

Sustainable water management is one of the most crucial issues facing farmers today. Therefore, the International Federation of Agricultural Producers intends to strengthen its work significantly in this field.

Farmers are the largest users of fresh water resources, accounting for 70 percent of total demand. They are conscious that demand for water in other sectors is growing, and yet availability of water is critical to achieving food security. In this dialogue, IFAP will promote the reconciliation of the demands of the various sectors for water resources, and promote sound policies for water conservation.

Raising awareness about water issues

IFAP participation in the dialogue is important in order to raise awareness among farmers of the scarcity of fresh water resources, and awareness of the technical possibilities available to improve water resource management. Moreover, water is more than a factor involved in the process of crop production on irrigated lands. It is a complex resource with implications for the protection of social, economic and environmental fabric in rural areas.

IFAP will also make efforts to raise awareness of water, food and environmental issues in international fora, and try to move such issues higher up the international development agenda.

Contribution to the knowledge base

IFAP, through its worldwide network, proposes to contribute to the knowledge base in two different areas. These are:

1. Equitable access and sustainable supply of water for the poor.
2. Developing strategies for sustainable and equitable management of water resources.

Other issues could be suggested, as well as sub-themes on the above-mentioned topics.

Case studies

IFAP as an international network bringing together national farmer organisations from throughout the world will gather information and compile data provided by the different national member organisations. The collected information/data aims at describing farmers' experiences in relation with the above-mentioned topics as well as lessons learned. This work would contribute to the elaboration of a document on farmers' good practices in terms of the efficient use of water in agriculture.

This study should be conducted in varied regions of the world in order to give a global picture of these practices. Therefore, focal points in certain IFAP member organisations will be chosen to facilitate the completion of the study. The following focal points are proposed:

- **North America**
United States of America, Canada
- **Europe**
Italy, Germany, France, Netherlands
- **Oceania**
Australia
- **South Asia**
India
- **Central Asia**
Mongolia, Russia
- **East Asia**
The Philippines, Japan
- **East Africa**
Kenya, Uganda
- **West Africa**
Mali, Ivory Coast
- **North Africa**
Egypt, Algeria, Tunisia
- **Southern Africa**
South Africa
- **Latin America**
Brazil, Peru, Costa Rica

Stakeholder platforms at national level

IFAP will encourage its national member organisations of farmers to take the initiative in setting up, or participating in, national stakeholder platforms, and water user groups.

IUCN

1. Supporting national and basin-wide dialogues

From the preparatory meetings, it is clear that more work needs to be done to define the further details of the set-up and functioning of the national and basin-wide dialogues. We consider that several elements are key to a successful set-up and implementation of these dialogues including:

- An Organising Committee with balanced representation of stakeholders and including at least 2 members of Dialogue Consortium Group;
- Balanced key-stakeholders representation and active participation in dialogue based on recognition of rights and assessment of risks in relation to agricultural production vs. food and environmental security;
- Financial support to stakeholders to prepare and attend the meetings;
- High quality background material prepared for meetings, including a mapping of key issues and perceptions of all stakeholders (what is the dialogue—national numbers on key indicators—local and national cases of conflict (black book / white paper));
- Political engagement of government and political parties;
- Provincial hearings/info meetings to bring rural reality to the debate.

Based on a preliminary analysis, IUCN offers to co-facilitate national and/or basin level dialogues for the following countries:

- **West Africa**
Senegal, Mali, Burkina Faso, Mauritania
- **Eastern / Southern Africa**
Botswana, Zimbabwe, Mozambique, Tanzania, Kenya, Uganda
- **South / South-east Asia**
Nepal, Sri Lanka, Pakistan, Bangladesh, Vietnam, Thailand, Laos, Cambodia
- **Latin America**
El Salvador, Guatemala, Mexico, Costa Rica, Honduras, Nicaragua
- **Mediterranean**
Spain, Morocco, Libya, Tunisia, Turkey
- **Central and Eastern Europe**
Poland, Slovakia, Bulgaria, Hungary, Estonia

Furthermore, IUCN offers to co-facilitate basin-level dialogues in: the Mekong, Rufiji, Zambezi, Senegal, Chad, Indus, and Tempisque river basins.

Based on the outcome of the preparatory workshop, additional project concepts will be prepared for the above countries and basins.

2. Knowledge base

IUCN will be able to contribute the following materials and information to the knowledge base:

- Existing IUCN books, reports and documentation on issues and projects;
- Environmental flow requirements database and handbook (delivery 2003);
- Economic valuation of natural resources handbook (delivery 2003);
- Freshwater biodiversity global database and data management system (delivery 2003);
- Regional level datasets and GIS systems for selected regions / countries (existing).

Currently, funding is being sought for developing the Water, Food, and Environmental Security component of the Water Resources and Wetlands *e-Atlas*. Based on discussions during the Knowledge Base workshop additional project concepts could be developed.

3. Local actions: case studies

Through its network of members, IUCN can provide inputs and linkages to the Dialogue. A clear linkage can be established for developing synthesis of conflicts on water-agriculture-nature (see above-Knowledge Base) at local levels. A close link can also be established with local groups and actions in demonstration sites of the *IUCN Water and Nature Initiative*. These sites will be developed over the coming 2 years into 'learning sites' for ecosystem-based river basin management. Agriculture–nature/water issues will feature prominently in these demonstration sites.

A substantial amount of work will be needed for synthesising local case studies and for empowering local groups in national dialogues. Further project concepts will be developed over time as appropriate.

IWMI

Comprehensive assessment of water management in agriculture—benefits, costs and future directions

The main objectives of the Comprehensive Assessment will be to provide rigorous information to inform the scientific community, the general public, and decision makers about key issues of using water for food production that have an impact on livelihoods and environmental security. Through the Comprehensive Assessment, analytical methods will be developed and applied to assess the societal and ecosystem costs and benefits of water use, and to identify and evaluate important trade-offs between water for food security and the environment. The objectives of the Comprehensive Assessment are:

- Strengthen the knowledge base on water for food and environmental security.
- Address water-food security and environmental trade-offs in an integrated framework through development and application of conceptual, research and assessment tools.
- Provide feedback into the Dialogue on Water for Food, Health and Environment that will strive to gain consensus among key stakeholders from the irrigation, environment, and rural development communities on the role irrigated agriculture plays and should play in the future.

The Assessment will analyze the past societal and environmental benefits and costs of water management activities for food production. It will update the global situation with a current assessment of key

parameters. Then, by learning from the past, and by using an enhanced knowledge base, the Assessment will chart and evaluate potential future directions. The Assessment will be performed at a variety of scales—from the household level to the global level. Information will be required to consider such issues as household food security. Then, in order to understand future scenarios for food production and environmental security, global knowledge is required. Water basin, national, and regional scales are also logical units of analysis for the assessment.

The output of the effort will comprise a rich range of reports, scientific publications, presentations, and multimedia material covering a broad range of topics. The outputs include:

1. A credible and authoritative assessment of past benefits and costs of irrigation as a means of managing water for agriculture.
2. Future directions for water management for agriculture explored, quantified, and described with results accessible to policy makers, and the general public—
 - At the global scale
 - For selected nations and regions
 - For selected important river basins representing a cross situation of the water management problems and opportunities faced today.
3. Definitions, indicators, concepts, and background material related to food and environmental security.
4. Case studies to document problems around food and environmental security, and how these were resolved, in order to provide synthesized information to those facing similar problems in similar environments.
5. A common framework for understanding water productivity, detailed strategies for increasing the productivity of water in agriculture, and a research agenda for future actions in increasing water productivity from considering water management to genetic material for crops.
6. Analytic tools for exploring options and trade-offs at the global, national, and basin scale.
7. Significantly advanced data sets on:
 - The world's irrigated area, including spatial distribution, cropping intensity, and water use.
 - The contribution of groundwater to agriculture, and the extent of exploitation of groundwater in a non-sustainable manner.

The output will be achieved through the following activities:

1. *Background material* to provide terminology, indicators, key trends, and reviews of existing literature related to water for food and environmental security.
2. *Key global trends* in water management for agriculture, and the water conservation movement.
3. Identification of key interventions to increase *agricultural water productivity* considering a variety of water management approaches from fully rain-fed to fully irrigated agriculture.

4. An in-depth exploration of the *benefits and costs of irrigated agriculture*, advancing the knowledge from that presented in the World Commission on Dams report, including national- and river- basin level case studies.
5. An estimation of the *global scale environmental impacts of irrigation development*.
6. The contribution of *irrigation development to poverty alleviation and food security*.
7. *Case studies* at river basins and areas of sensitive agriculture-environment interactions to focus on key “on-the-ground” issues of water for food and environmental security.
8. *Documentation of site-specific actions* identified in the Actions component of the Dialogue.
9. *Mapping the world’s irrigated areas* using remote sensing and ground truthing.
10. *Estimating the contribution of groundwater* to agriculture production, and the degree of unsustainable use.
11. *Presenting the potential contribution of rain-fed agriculture, water harvesting, and innovative approaches* to managing water.
12. *Reinventing irrigation*—a conceptual model to develop alternative scenarios for the future of water management.
13. *Analyzing options*—using modelling techniques to present alternatives to managing water that lead food and environmental security.
14. *Basin scale options*—An analysis of water management options at a basin scale in selected case study sites to help chart future directions.

The Comprehensive Assessment will require a variety of partners to carry out the work. The CG System Wide Initiative on Water Management (SWIM) will focus its activities on the Comprehensive Assessment. In addition, a range of partners representing a variety of interests will be required to fulfill the task.

UNEP

Proposal for an environmental assessment of FAO food scenarios

Background

FAO is producing the Agriculture Towards 2030 (AT 2030) scenario study. A technical report with the projections has been released in 2000; a more comprehensive publication, aimed at a wider audience is being compiled during 2001. The projections are optimized for food security. They are based on detailed information on national agricultural resources and expert judgement of an achievable production-consumption-trade situation by 2030.

Approach

The nature of the AT 2030 scenario (detailed end vision, no time path) means that a backcasting approach needs to be adopted. This makes the exercise different from the more common explorative scenario studies, like the GEO reports or IPCC-SRES. Backcasting is a specific method. AT 2030 presents a somewhat special case because agriculturally it is already fully defined, with many implied choices in terms of resource use and trade positions.

The proposed analysis focuses on the specific challenges and opportunities to realize AT 2030 and its vision of food security, within the envelope of sustainable development. In addition to AT 2030, the 2030 vision needs to be made more specific on aspects such as demographics, urbanization, income, energy use and climate policies. The additions serve to estimate additional claims on resources (for example, land for biofuels and for terrestrial biodiversity), extra strains on the agricultural system that need to be accommodated (for example, risk of land degradation, or climate change), and other key linkages (for example, to water supply in megacities). An initial comparison of inputs to AT 2030 with projections for GEO indicates that land issues with AT 2030 could be at least as important as fresh water issues.

The analysis then works back from the 2030 vision, and identifies challenges and opportunities to public and private policy. It should make use of the spatially detailed underpinning of AT 2030 (the national resources/commodities sheets). The aim is to present conclusions at the level of subcontinents. Challenges and opportunities can be made visible by confronting the backcast with current trends and/or projections from other scenarios. The analysis should be thought of as a creative and solution-finding process, not as something mechanical.

Analytical centres and networks involved in the definition phase

- CSER Kassel • IIASA Laxenburg • RIVM Bilthoven • CGIAR centres • WWF • FAO

Outputs

- Scoping study (also usable as *issues report* during preparations for the 2002 Earth Summit)
- Documentation for regional workshops
- Final report, technical reports (on paper and web-based)

WHO

As the global authority on public health, the World Health Organization will be able to provide a number of technical inputs into the Dialogue on Water, Food and Environment that will give direction and substance to the cross-cutting health issues.

The scope of these inputs will be broad as a range of health issues relates to water resources development for food security and water conservation for environmental sustainability:

- Water-related vector-borne diseases (malaria, filariasis, Japanese encephalitis —all linked to irrigation development to a greater or lesser extent, depending on the location)
- Water-based diseases (schistosomiasis, Guinea-worm infection)

- Water-borne and water-washed infections, mainly of the gastro-intestinal type—linked to irrigation schemes and wetland areas where communities lack access to safe drinking water and adequate sanitation.
- Non-communicable diseases related to acute or long-term exposure to chemicals of a range of toxicity levels, used in irrigated agriculture.
- Malnutrition as an exponent of the level of food security and the socio-economic status of communities in irrigated agro-ecosystems and in wetland areas.
- Miscellaneous accidents and injuries related to water resources development: drowning, crocodile attack and snake bite

WHO contributions will cover technical and managerial issues.

With respect to the **technical issues**, the WHO can provide substantiated evidence for the Dialogue knowledge base on the economic burden caused by the various diseases related to water and water resources development.

WHO will also be in a position to assist in the health impact assessment of the different scenarios for water resources development that will be produced through a number of local or basin-wide dialogues. The Organization has the expertise in terms of methodology; procedure and experience to carry out such impact assessments, taking into account community vulnerability, environmental receptivity and the capacity of health institutions. In this connection, close collaboration will be sought with UNEP on the issues where environmental assessment and health impact assessment interface. WHO can advise on options for measures to reduce health risks and seize health opportunities to a maximum.

On the **managerial** aspects, the World Health Organization has a long standing experience in promoting intersectoral dialogue and intersectoral action for health. Intersectoral collaboration was one of the pillars of the Health for All Strategy adopted by WHO and UNICEF in Alma Ata in 1977. Efforts to involve other public sectors in health issues have been promoted at the international level (between UN agencies), and at the national level, both in terms of policy review and adjustment and in terms of programme adjustment.

During the International Decade on Drinking Water Supply and Sanitation (1980-1990) WHO was instrumental in establishing national WSS Committees where all sectors were represented. In 1981 WHO, FAO and UNEP established the Panel of Experts on Environmental Management for Vector Control as a framework for intersectoral action on issues pertaining to water resources development and management in agriculture, environment and health. This arrangement was conceived as a model for intersectoral collaboration at the national level. In the wake of the UNCED (Rio de Janeiro 1992) WHO assisted Member States in the development of National Environmental Health Action Plans (NEHAPs) which should fit into the National Plans for Sustainable Development and provide an intersectoral frame for health in sustainable development.

These experiences and other, all well-documented, can serve as a basis for the development of the national and basin-wide dialogues on water, food and the environment.

Specific areas of activity

Following is an overview of the areas of activity where WHO intends to be involved under the Dialogue Initiative:

- The continued organization of policy seminars on incorporating health considerations into integrated water resources development (such seminars have already been held in Kenya, Benin, Zambia, Malawi and Ecuador)
- Institutionalisation in Africa of the training course on intersectoral decision making for health impact assessment of water resources development project (training materials are available, based on development and testing in Zimbabwe, Ghana, Tanzania, Central America and India)
- River basin studies that look at health as a comprehensive, cross-cutting issue in the planning and management of basin-wide water resources (such studies were carried out in the early 1990s for the Mekong, Zambezi and Senegal rivers), an input into the Dialogue knowledge base.
- Development of common definitions and indicators: burden of disease (BOD) statistics, BOD attribution and links between environmental and social determinants of health in relation to health indicators.
- Health impact assessment of different scenarios for integrated water resources development.
- Provision of information through various WHO databases, including the global water supply and sanitation assessment report, drinking water quality guidelines, guidelines on health risk management in the use of waste water in agriculture and aquaculture, the World Health report, WHO Fact sheets and WHO commissioned research.
- Synthesis of best practice information on health risk management as part of water resources development and management. Guidelines and decision-making criteria for the use of the various environmental management measures and other health protective and promotional measures. Promotion of best practice through the most appropriate channels to different user groups.

Institutional links

Within the WHO a number of clusters and in these clusters, departments will be involved. The Department of Protection of the Human Environment in the Cluster of Sustainable Development and Health Environments will be the focal point for collaboration in the Dialogue Consortium. WHO works through its six Regional Offices in Cairo, Copenhagen, Delhi, Harare, Manila and Washington DC. It has a network of formally designated WHO Collaborating Centres in all areas of public health importance, including water and water resources. Through a number of mechanisms WHO works on water-related health issues with the United Nations Organization, such as UNEP, and the UN specialised agencies such as FAO. It also has or is developing special relations with a number of relevant other agencies like IUCN and WWF, and it has a Memorandum of Understanding with the International Association for Impact Assessment.

WWC

Proposal for a dialogue on politics and water

Integrated Water Resource Management (IWRM) requires an unprecedented level of political co-operation. Any useful debate can take place only by recognising that water users and policy makers operate in political systems that determine or not whether the new paradigms can be assimilated. In brief, we must learn how to assess and influence political feasibility.

Context

One of the parallel workshops at the meeting in Colombo in December on the Dialogue on Water for Food and Environmental Security dealt with the subject of "Dialogue as a Political Process." Participants highlighted the following issues:

- Lack of unified voice that could compete with other items on the political agenda;
- No understanding of the political rationale and political dynamics involved in setting priorities;
- Sector knowledge *not constructed and presented to enable creation of political will.*

As the Food Dialogue process moves ahead there are initiatives where assessing the power structure and political processes could be involved. For example, ICID has prepared in co-operation with FAO, IWMI, IFPRI, IPTRID and The World Bank a proposal for a joint programme on 'Future role of irrigation and drainage in food production and rural development: Support to development of country policies'. One of the three major design workshops being planned as part of the Dialogue process has been suggested as 'Integrated land management, coping strategies and institutional change related to water management'. *Both Ends, Gomukh* and other co-ordinating partners are drafting a methodology paper for this effort.

Proposed project goal:

To make political and institutional change processes a normal part of addressing water policy reform so that through IWRM citizens of communities, nations and international basins may benefit from environmental security while meeting the water requirements of their societies and their economies.

Objectives:

- To create awareness within the water community that successful implementation of IWRM policies depends on influencing the power structure and decision makers in the affected communities.
- To develop a knowledge base of successful and unsuccessful attempts to create institutional and political environments favorable to the implementation of IWRM.
- To conduct pilot activities to identify the institutional and political power structures in some countries or basins, where feasible as a prelude to development of strategies to influence them.

Approach:

Those involved in IWRM must establish an effective dialogue with those who have the power to influence or make the decisions on creating or revising policy. Many ongoing or planned IWRM or river basin management are being led by members of the WWC or are exercises in which both WWC and GWP are participating. Through members of WWC and GWP this programme would co-ordinate its activities with these related initiatives.

Beneficiaries:

The ultimate beneficiaries of this programme will be the societies who successfully adopt IWRM policies, their economies and their surrounding environments. Primary beneficiaries would include agencies attempting to implement IWRM and the international agencies and donor communities who are supporting them.

Outputs:

- Knowledge base of successful and unsuccessful attempts to create institutional and political environments favorable to the implementation of IWRM.

- Framework approach to identifying and influencing institutional and political power structures based on cases included in knowledge base.
- In selected countries or basins, identification of the institutional and political power structures to be influenced.
- Where feasible, through dialogue with the identified institutional and political forces, adoption and implementation of IWRM or appropriate parts thereof.

Activities:

a. Exploratory phase

- Circulate the draft project proposal among those who attended brainstorming sessions in Colombo and Ankara and revise to reflect their comments.
- Circulate the revised draft amongst members of WWC, GWP, Gender Alliance, etc. and create temporary page on WWC website to seek comments.
- Finalise the project proposal, including budget, and seek financing.

b. Implementation phase

- Identify organisations and individuals with experience in successful and unsuccessful attempts to create institutional and political environments favourable to reform in water or any sector
- Initiate preparation of knowledge base using information collected.
- Convene meetings of those identified to share experience and develop preliminary framework for approach to change.
- Identify 5-6 countries where pilot exercise might be conducted and identify lead groups to bring together and create dialogue on the politics and institutions that influence prioritisation by decision-makers of social, technical, economic and environmental concerns.
- Make web page permanent on WWC website and update knowledge base regularly.

WWF

Introduction

WWF strongly believes that there is potential, especially for many poor countries, to increase food production without undertaking major new water infrastructure projects.

Assuming the availability of resources to support full participation, WWF plans to contribute in three main ways to the Dialogue:

1. Contributing to basin, national, and local-level dialogues;
2. Raising awareness of the link between ecosystem health, water and food;
3. Supporting the development of a knowledge base on these issues;

1. Contributing to basin, national, and local-level dialogues

WWF suggests that solutions to the challenges of food and environmental insecurity need to be identified at scales relevant to management of freshwater ecosystems: namely basin, national and local levels WWF will contribute to identify effective strategies that help diversify food sources, improve fisheries in rivers and wetlands, promote the water efficiency of crops and the locally adapted crops with high nutrition values, and promote national policies to conserve the water through improved water pricing and allocation.

Depending on the resources that can be mobilised, WWF's contribution to the Dialogue process would focus on some or all of the following activities:

Improving productivity of ecosystems

- Promote field-scale watershed management that improves the soil-water content and ground water recharge, hence leading to higher productivity and less dependence on direct extraction of water from rivers and streams.
- Initiate few local-level demonstration projects in regions to show that farm productivity can be enhanced while reducing water use.
- Assemble information from the WWF network on experience at the project level that directly or indirectly improves food security while enhancing ecosystem quality.
- Evaluate the potential role for food production of applying these techniques more widely (scaling-up to sub-catchments), especially in regions with low or irregular rainfall.

Improving management at basin level

- Work in a few priority river basins to assess the contribution of wetlands and river systems towards providing food security for the poorest communities.
- Identify suitable strategies to improve the food production without recourse to major water related infrastructure projects.
- Target a few commercial crops that use large quantity of water in selected river basins with the aim of maintaining or increasing production whilst setting specific targets to reduce water use e.g. by >20 percent.
- As part of national-level dialogues, initiate an exclusive discussion on role of wetlands and rivers in providing food security for the people.
- Organise workshops and hearings in selected ecoregions using participatory methods to involve people in defining needs for food security.

National and international trade policies

- Work nationally and at the WTO level to promote a policy environment that enables food and environmental security in the context of increasing globalisation of trade.
- Undertake case studies of a few agricultural products to identify national distortions such as subsidies that are damaging from both an economic and environmental perspective.

- Identify cases where international trade is driving excessive water use and leading to decline in food production and degradation of ecosystems.

2. Raising awareness of the link between ecosystem health, water and food

WWF would expect to be involved in a range of awareness raising activities specifically concerned with the linkage between freshwater ecosystem health, water and food. These activities could draw on the emerging knowledge and consensus from all aspects of the Dialogue process.

This awareness raising would involve:

- Identifying key audiences at international, national and river basin levels;
- Developing materials designed to get key messages across to these groups;
- Opening channels of dialogue with affected or interested groups;
- Making specific efforts to bringing the issues to the attention of the public through events, and information campaigns in key countries or regions;
- Working to bring public pressure to bear on governments, business, and international institutions to promote the outputs of the Dialogue and the need for positive change.

3. Supporting the development of a knowledge base on these issues

WWF hopes to contribute to the development of this knowledge base in at least the following ways:

- Make available all information generated under the activities listed above through its own website (www.panda.org) and to a central knowledge base for the Dialogue;
- Provide information on WWF's long experience in different countries on ecosystem management practise;
- Provide published information on WWF's work on international policies such as WTO in addressing the broader issues of environmental threats and opportunities;
- Provide information about relevant WWF freshwater projects.

Conclusion

In outlining some of ideas for the dialogue process above we recognise that not everything will be possible. Depending on the resources available—financial and human—WWF will engage seriously on some of them while supporting partners on other aspects. In addition, WWF will also contribute to the entire Dialogue process by reviewing the documents, providing critical technical inputs in designing some of the dialogues, sharing experiences on the ground.

ANNEX 2: Dialogue Logical Framework

Intervention Logic

Indicators of Performance

Means Of Verification

Assumptions

Development Objective:

Improve water resources management for food security and environmental sustainability with a special focus on the reduction of poverty and hunger and the improvement of human health.

Intermediate Objective:

Build bridges between agricultural and environmental communities, on water resources issues, by improving the linkages between the sectoral approaches that dominate policymaking and implementation, particularly at national level.

- Environmental indicators (state-response, stress reduction, and source vulnerability)
- Socioeconomic indicators (policy, legal, and institutional processes)
- Government policy statements
- Economic planning reports
- Ministry staffing tables and private sector inventory
- International NGO and multilateral organisation reports
- Sector players amenable to bridge construction
- Donor support is locked in
- Political process remains stable

Immediate Objectives:

1. Establish and strengthen a viable dialogue, at primarily national and local levels.
2. Draw together, maintain and improve the required knowledge base for the Dialogue.
3. Create a platform for local or basin scale activities that enhance food and environmental security in order to enhance the exchange of experience and the development and identification of best practices.
4. To raise awareness amongst the relevant institutions, organisations and communities.

- Country, basin and local dialogues established
- Knowledge base disseminated-reporting, peer-reviewed documents, presentations, books and brochures
- Local/basin platforms established and best practices identified
- Annual Dialogue meetings held and issues presented at key milestones events
- Meeting agendas and reports
- Published material
- Global milestones
- Processes can be synchronised by Dialogue Secretariat

1. Dialogue at national and local levels

- Output 1.1 Cross-sectoral dialogues at national level on options to achieve food and environmental security to reduce poverty and hunger and improve health in at least 15-20 countries.
- Output 1.2 Dialogues at basin and local level on options to achieve food and environmental security to reduce poverty and hunger and improve health in at least 5-10 river basins / sites.

2. Knowledge base

- Output 2.1 Common definitions on water security, food security, environmental security, etc. and common indicators of poverty, hunger, health, environmental quality etc.
- Output 2.2 Credible and authoritative information and analyses on water availability, use and requirements for agriculture, environment and associated uses.
- Output 2.3 Scenarios at global, national and basin levels concerning alternative options to develop and manage water resources for food and environmental security.
- Output 2.4 Assessment of impacts on food security, hunger, poverty, livelihoods, health, environmental quality and biodiversity of alternative scenarios.

3. Platform for local action projects

- Output 3.1 Exchange of practical experience at the local level among the practitioners.
- Output 3.2 Synthesis of best practice information based on the experience gained in thousands of local action projects.
- Output 3.3 Inputs of local experience into the dialogue processes at national and basin/local level.

4. Awareness raising

- Output 4.1 Annual Dialogue meetings of all partners and participating organisations that raise the issue on the global political agenda through press releases, interviews and presentations of Dialogue Ambassadors
- Output 4.2 Presentations at key meetings: Bonn Freshwater Conference, Rio+10, Third World Water Forum, ICID Congress in Montreal 2003, meetings of the UN Conventions and others as appropriate.

ANNEX 3: Terms of Reference of the Dialogue Secretariat

The Dialogue on Water, Food and Environment is an initiative of FAO, GWP, ICID, IFAP, IUCN, IWMI, UNEP, WHO, WWC, and WWF. These organisations have expressed their intention to establish a Consortium⁵ to implement the Dialogue and establish a Secretariat to manage central Dialogue activities. The Secretariat will be hosted by IWMI. The Secretariat will report to the Dialogue Consortium. IWMI will: (a) appoint staff and second these to the Dialogue Secretariat; (b) administer funds held for the Dialogue on behalf of the Consortium; and (c) represent the Dialogue in contracts with third parties.

The Dialogue Secretariat will be led by a Director who will report directly to the Consortium and to its Chairperson in between meetings. Other staff of the Secretariat report to the Director.

The main tasks of the Secretariat are to manage the central Dialogue activities on behalf of the Consortium and specifically to:

1. Develop and manage the Communications programme and support the Dialogue Ambassadors and Chair.
2. Promote the development of, and fundraising for, the main three blocks of Dialogue activities: national and local Dialogues, Knowledge Base and Local Action Platform.
3. Organise Dialogue workshops and other meetings.
4. Co-ordinate (loosely—primary responsibility remains with the implementing partners) the actions within the three blocks of activities.
5. Commission synthesis papers in areas where the ongoing actions of the Dialogue partners can be aggregated or pulled together for wider audiences.
6. Liase with related efforts in the water/agriculture/environment areas and with organisers of key meetings on behalf of the Consortium.

ANNEX 4: Job Descriptions of the Dialogue Secretariat Staff

The tasks of the staff of the Dialogue Secretariat are planned to be the following.

Director:

Tasks:

- Report to the Dialogue Consortium and to its Chairperson in between meetings.
- Direct the Secretariat to achieve the Dialogue objectives as set out in the Dialogue Proposal.
- Raise funds for the Dialogue activities in close co-operation with the Chair of the Dialogue Sponsor Group.
- Manage the (outsourced) communications programme.
- Support the development of national and local dialogues in 15-20 countries and 5-10 basins or sites.

⁵Operational members of the Consortium will be the organisations that have agreed to the arrangements in the establishment of a Consortium for a Dialogue on Water, Food and Environment.

Qualifications:

- Senior manager with broad international experience in the water, food and environment areas.
- Stature and reputation to develop good working relations with senior representatives of governments and international organisations in both the agricultural and environment communities.
- Experience in development and management of a major international initiative such as the Dialogue.
- Support for the core Dialogue objectives of bridging differences between the agricultural and environmental communities and diplomatic skills to handle sensitive issues.
- Ability to represent the Dialogue in key fora.

Knowledge Base Liaison Officer:

Tasks:

- Contribute to the development of a Knowledge Base methodology.
- Facilitate co-ordination and linkages between various knowledge base components.
- Act as a Secretary to the Scientific and Technical Advisory Panel (STAP).
- Develop and maintain the Dialogue website.
- Write, or contribute to writing of, Knowledge Base Synthesis papers.
- Liase with the project leaders of the core Knowledge base components.

Qualifications:

- PhD in a discipline relevant to the water, food, environment issues, preferably experience with integrated water resources management.
- Experience in modelling and database management is desirable.
- Affinity to, and preferably experience with, holistic, systems-based approaches to natural resources management and policy issues.

Action Platform Liaison Officer:

Tasks:

- Development of a network of innovative local water resources management action projects and organisations that form the Local Action Exchange Platform.
- Develop an active exchange of information and experience among the Platform participants and publicise their achievements.
- Develop, or contribute to development of, activities to identify best practices on the basis of the experience of the Platform participants.
- Liase with Knowledge Base activities to get the best practice information incorporated and linked to the national and local dialogues.
- Support the Dialogue communication activities.

Qualifications:

- Experienced water resources manager with ample field experience, preferably at the local level.
- Extensive contacts among organisations active in the field.
- Ability to develop network activities and engage partners.
- Excellent communication skills.

Secretary / Office Manager:**Tasks:**

- Set up the Dialogue Secretariat office, establish email file systems, etc.
- Liaise with IWMI departments responsible for purchasing, accounting, transport, conference management etc.
- Organise Dialogue meetings.
- Act as Secretary to Dialogue Consortium meetings and chair.
- Maintain key planning documents such as budgets, overview of contracts, and work schedules.
- Contribute to Dialogue website maintenance.

Qualifications:

- Experienced secretary.
- Well-developed organisational and managerial skills.
- Excellent communication skills.

Dialogue

on Water, Food and Ecosystems

Dialogue Secretariat

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