

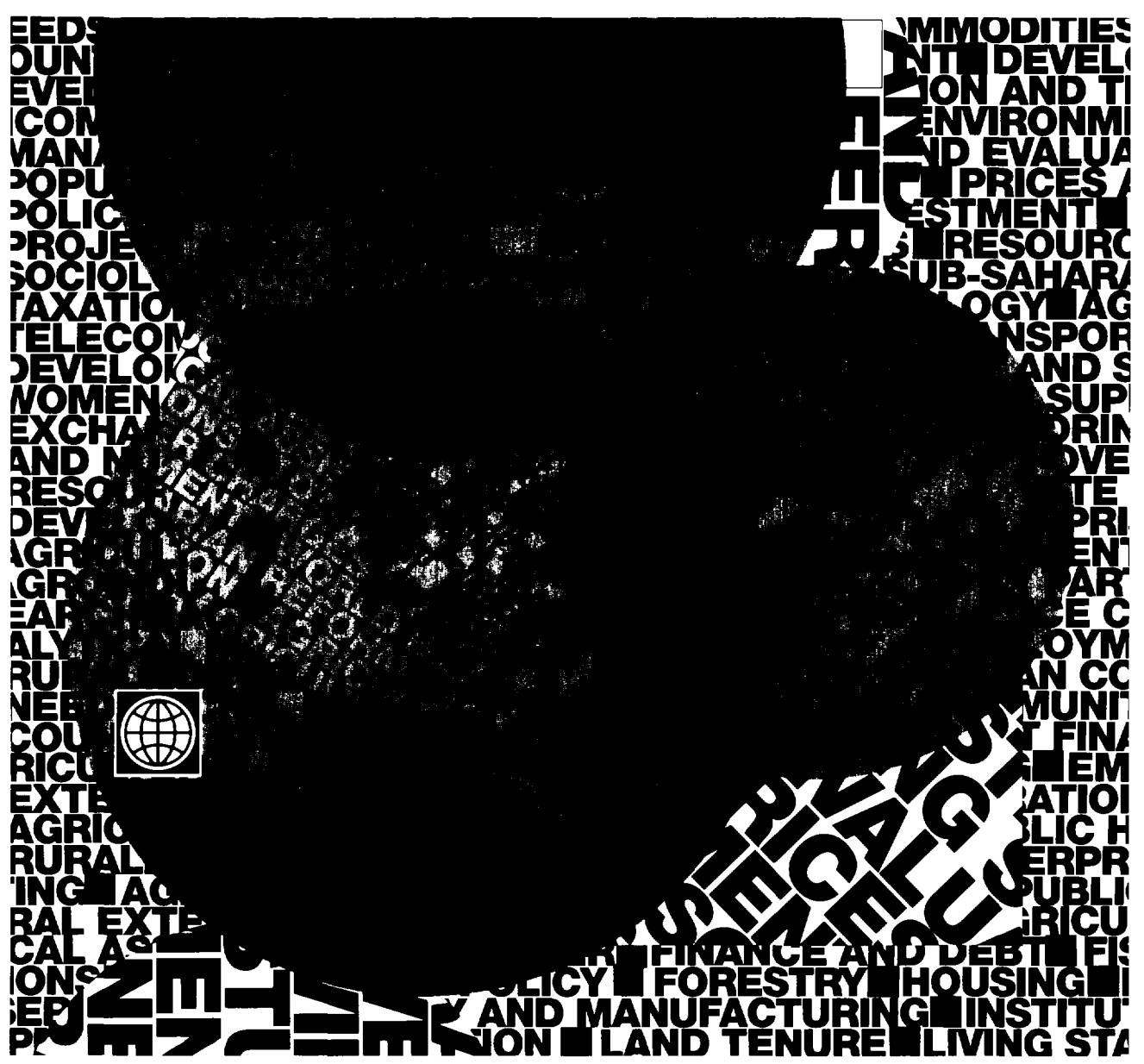
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WORLD BANK TECHNICAL PAPER NUMBER 239

International Inland Waters

Concepts for a More Active World Bank Role

Syed Kirmani and Robert Rangeley



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Syed Kirmani and Robert Rangeley are consultants to the Agriculture and Natural Resources Department at the World Bank.

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FOREWORD

It is now widely recognized that ensuring the supply of water at an affordable cost and of acceptable quality for domestic consumption, food production, and other uses in the early years of the next century will be very difficult. Efficient use, effective conservation, and comprehensive management of the available water resources are essential to address this crisis. These objectives take a long time to achieve. They are more difficult to address in the case of international rather than national river basins.

This paper has been part of a larger effort within the World Bank to review its policies and strategies for assisting developing countries in comprehensive management of their water resources. It focuses mainly on the Bank's role in international water affairs and recommends that the Bank should play a more proactive role in promoting dialogue, improving data base and analysis, and assisting riparians in establishing cooperative arrangements to plan and use their water resources efficiently. Further, it suggests that the Bank should strengthen its capacity to respond to riparian requests for assistance in an objective, competent and effective manner.

The concepts presented in the paper for a more proactive Bank role in international water affairs have been broadly discussed. In particular, they received strong support at the international workshop which was convened in July 1991 to discuss the content of the Water Resources Management policy paper, which was then being prepared. But the paper has a wider audience. It should be of particular interest to the developing countries sharing international inland waters, the United Nations Agencies dealing with water resources development, the International Law Association, the International Water Resources Association, the International Commission for Irrigation and Drainage, international financing agencies and donor countries, and other national and international professional societies, organizations, and consulting firms dealing with water. Thus we have decided to publish it separately, hoping that its publication will trigger constructive initiatives for enhancing international cooperation in an important aspect of water resources management and development.

Michel J. Petit
Director
Agriculture and Natural Resources Department

ABSTRACT

Many developing countries are facing serious problems in meeting the rapidly growing water demands for domestic, industrial, irrigation, power, and other uses. The marginal cost of additional supplies is increasing, water quality is deteriorating, ecology and biodiversity problems are aggravating, and intersectoral conflicts are becoming more frequent. These issues are more difficult and often intractable in international river basins where riparian countries are unable to establish cooperative arrangements to plan and use the available water resources effectively.

This paper reviews the World Bank's role in international water affairs. It was initiated to address the concerns expressed by the delegates to an international workshop on comprehensive water resources management organized by the Bank in June 1991. The delegates complained that the current Bank policy on international water affairs was not sufficiently helpful and recommended that the Bank should play a more proactive role in promoting cooperative arrangements between riparian countries for systematic planning and development of their common resources and fostering settlement of riparian disputes.

The review of the Bank's experience shows that, with the notable exception of the Indus Waters Treaty, the Bank has made only limited direct interventions in international water affairs. Its present policy (Operational Directive 7.50) has a strictly limited project orientation. It is curative rather than preventive and does not foster creative options in situations where riparian countries of widely different technical abilities and economic power are involved. The paper points out that international water issues are assuming increasing importance in the Bank's development assistance strategies, that the demand for Bank assistance is increasing, and that the Bank has unique opportunities and comparative advantage in assisting riparian countries where inefficient use of scarce water resources, increasing pollution, and the lack of riparian cooperation are seriously threatening sustainable development.

The paper recommends that the Bank should play a more proactive role in international water affairs. Development should be the primary objective for its interventions. Its policy should be flexible and its main thrust should be to assist riparian countries in their own efforts to establish cooperative arrangements to plan and use their common water resources efficiently. There are many modalities for Bank interventions. It should promote dialogue, improve the data base and analysis, and induce constructive cooperation.

The report cautions that international water issues are technically complex and potentially sensitive. The Bank should concentrate its efforts on cases where its interventions are likely to produce favorable results. It should be responsive when there is a need for its assistance and the riparians welcome it.

Bank involvement in international water affairs requires developing consensus and mobilizing support on complex and sensitive legal, political, and technical concerns of all riparians, big and small, and rich and poor. It requires patience, perseverance, and development diplomacy. The paper recommends that the Bank should enhance its capacity to play a proactive role and address riparian requests for assistance objectively, competently, and effectively.

PREFACE

Developing countries' requests for Bank assistance for addressing the riparian issues constraining efficient development and utilization of international inland waters have increased in recent years. At an international workshop held in June 1991 at the World Bank to review a draft report on comprehensive management of water resources, the delegates from both developing and developed countries recommended that the Bank should consider taking a more proactive role in international water affairs beyond that envisaged in its current policies. The Bank's Agriculture and Natural Resources Department, therefore, initiated a research study in 1991 to review whether the Bank should play a more proactive role in international water affairs, and if it should, how it should do so. This paper presents the results of that research.

The terms "international inland waters," "transboundary waters," "water resources of international river basins" and "resources of international watercourses" have often been used in various publications. This paper uses these terms synonymously although there may be fine differences in their legal interpretation.

The main audience of this paper is governments, development banks, consulting firms, professional societies, universities, riparian countries, and the international and bilateral financing agencies--in short, all those whose policies and practices have a profound effect on the efficient development, utilization, and management of international inland waters.

The paper benefited from the comments and suggestions made by the delegates to the international workshop held at the Bank in June 1991. The authors are grateful to the Bank's vice presidents, directors, divisional managers, and water specialists who made useful suggestions, first during personal interviews and later through their comments on the draft paper. The authors are particularly thankful to Robert Picciotto, Vice President, who chaired the workshop organized by the Agriculture and Natural Resources Department to discuss the final draft. The authors wish to express their gratitude to Mr. Guy Le Moigne, Senior Adviser for Water Resources, who reviewed the paper at all stages of its processing and helped to improve its concepts as well as its presentation.

Background

As part of the review of its policies in comprehensive water resource management, the World Bank organized a workshop in June, 1991 in Washington, D.C. to elicit international experts' views on its policies. More than 100 experts from the developed and developing countries, including representatives of the International Water Resources Association and the International Commission on Irrigation and Drainage, participated in the workshop.

One of the issues that received most attention at the workshop was the development and management of international inland waters. Delegates from the developing countries were most vocal in complaining that development of water resources of many international rivers was seriously constrained due to the lack of cooperation among the riparian countries and that the Bank's policy on international inland waters has not proved effective in assisting them to resolve their differences and promote development. This discussion led to a unanimous recommendation that the World Bank should consider taking a more proactive role in international water affairs beyond that prescribed in the Bank's Operational Directive (OD 7.50 - Box 1). Delegates requested Bank assistance and urged the adoption of a broad based initiative in such areas of comprehensive international inland waters management as promoting cooperative riparian efforts in data collection and planning; establishing river basin organizations (RBOs) for systematic and unified planning and development, and fostering settlement of riparian disputes.

This paper reviews the role the Bank might play in promoting the development and management of international inland waters. It recommends that the Bank should play a more proactive role in international water affairs; its policy should be flexible; its main thrust should be to assist riparian countries in their own efforts to establish cooperative arrangements; and the primary objective for its interventions should be development.

Purpose of the Paper

The paper considers two basic questions:

- (i) Should the World Bank play a more proactive role in international inland waters affairs?
- (ii) If it should, how might it do so?

This paper addresses the above questions. A substantial amount of information has been published on international water affairs and agreements. The International Law Association has done considerable work in establishing the principles of international water law governing the use and development of the water resources of international rivers. The International Law Commission, a body of the United Nations, has broadened the scope of the river basin concept to include all aspects of water quantity and quality control. Conceptual and methodological advances are also taking place. Modeling, multi-objective planning, risk analysis, interactive decision analysis, simulation, and alternative dispute resolution processes

are all parts of efforts to improve strategies for addressing international water issues. The Bank has a policy (OD 7.50 - see box 1) for assisting riparian countries in developing international inland water resources. The Bank's regional departments have initiated case studies of selected international basins.

Box 1. World Bank Policy on International Water Issues

The Bank recognizes that cooperation and goodwill of riparian countries is essential for efficient development and utilization of international waterways. It attaches the utmost importance to riparians entering into appropriate cooperative arrangements for such purposes, and stands ready to assist them in achieving these objectives. In cases where differences remain unresolved, the Bank, prior to financing the project proposed by a riparian country, will require that country to offer to negotiate in good faith with other riparians to reach appropriate agreements or arrangements.

Specifically, the Bank's policy (O.D. 750) requires the country proposing the project to notify other riparians of the proposed project. If the country does not wish to give the notifications, the Bank will normally give such notification to the other riparians. If the country does not want the Bank to do so, the Bank will discontinue further processing of the project.

In the cases where the other riparians, after receiving the notification from the country or the Bank, raise objections to the proposed project, the Bank will assess whether the objections are valid and reasonable. It will also obtain, if necessary, an additional opinion from independent experts. If the Bank is satisfied, on the basis of such assessments, that the proposed project will not cause appreciable harm to the interests of the other riparians, it will inform those riparians of its decision and consider further processing of the proposed project.

In all cases, the Bank recognizes that projects on international waterways require special handling because international water issues are sensitive and they may affect relations not only between the Bank and its borrowers but also between the riparian countries, whether members of the Bank or not.

This paper does not propose to describe the considerable background material available on the subject. Its primary focus is on the importance of cooperative arrangements between riparian countries of international rivers for the planning, development, and efficient use of their valuable water resources for economic progress and the needs of riparian countries for Bank assistance to establish such cooperative arrangements. The paper examines the opportunities the Bank has in playing a proactive role to help them and the challenges it would face in addressing complex and sensitive international water issues. It suggests that the Bank should enhance its capacity to play an effective role in international water affairs.

For the purposes of this paper, international inland waters include all "international waterways" described in OD 7.50. In addition, consideration has been given to the position of groundwater in international water affairs.

The Importance of Cooperative Arrangements for Sustainable Development of International Waters

Many developing countries are facing serious problems in meeting the rapidly growing demands for water supplies in all sectors - domestic, industrial, irrigation, and power. The marginal cost of additional supplies is increasing, water quality is deteriorating, ecology and biodiversity problems have become serious, and intersectoral conflicts are becoming more frequent. The supply of water at affordable cost and of acceptable quality is emerging as a major environmental challenge.

The dominant use of water in developing countries is for irrigation which, by its expansion over the last half century, has underpinned food security in the densely populated areas of Asia. Only through the comprehensive management of the water resources of major river basins, many of which are international, can expansion of irrigation be continued without causing undue damage to the quality of the ecosystem.

In Mediterranean countries and in particular in the arid zones that surround much of its shores, there are major problems in both the quantity and quality of water supplies for all uses. The most critical situation is found in the eastern Mediterranean region involving the international river basins of the Tigris, Euphrates, Jordan and Nile rivers.

In sub-Saharan Africa, the highly seasonal and variable climatic conditions and the paucity of perennial water resources outside the humid zone of the Congo basin present enormous challenges. All the major rivers are international, and whether for hydro-electric power or large water supplies, development depends on cooperative arrangements and agreements between the riparian countries.

In developing countries that lack domestic sources of fossil fuels, hydro-electric power has become an evermore important component of the energy sector. Hydro-electric power will make large demands on the international rivers of the world. Thailand, a country that has urgent needs for both energy and water, lies alongside the Mekong River with its enormous unexploited resources, amounting to some 30,000 MW. India, with similar problems, needs to pursue the vast untapped resources of the Ganges and Brahmaputra basins. In sub-Saharan Africa there must be a continued emphasis on hydro-electric power where some 95% of the total potential of 300,000 MW remains unharnessed, mostly on international rivers.

Experiences of the World Bank in International Water Affairs and the Need for Intervention

With the notable exception of the Indus Waters Treaty (Box 2), the Bank has made only limited direct intervention in international water affairs. Some indirect contributions towards the development of international river basins have been made through the funding of studies, projects and technical assistance. In the 33 years since signing of the Indus Treaty, the Bank was ready to offer its "good offices" in the resolution of development problems of international rivers such as the Ganges, Nile, Tigris and Euphrates, but in no case has it played

Box 2. The Indus Water Treaty

When the sub-continent was partitioned in 1947, the political boundary abruptly cut off two irrigation canal systems of Pakistan from their source in India. The dispute started in 1948 when India stopped the supplies and claimed propriety rights over the waters flowing through its territory. The former chairman of the Tennessee Valley Authority (TVA), warned in 1951 that the dispute was a dangerous powder-keg that could explode anytime. He suggested that the World Bank help the countries to develop the Indus system as a unit along the lines of the TVA. The Bank President promptly offered assistance and the delegations from the two countries met in Washington in May 1952 to prepare a joint plan. However, they differed too sharply in their views to pursue joint planning. The Bank suggested that each side should present a plan of its own. Again, their plans were too far apart to be reconciled. They agreed, however, to the Bank's offer to present its own proposal.

In February 1954, the Bank presented a proposal that allocated the eastern rivers (Ravi, Beas and Sutlej) to India and the western rivers (Indus, Jhelum and Chenab) to Pakistan. It envisaged construction of a system of link canals from the western rivers to replace Pakistan's uses on the eastern rivers, a transition period to allow Pakistan to complete these projects and the need for India to pay the project costs and continue the supplies during the transition period. The Bank said its proposal was simple, workable, and fair. The division would meet the uses of both sides and leave each free to develop new supplies. India accepted the proposal. Pakistan's acceptance was conditional; it contended that there was not enough surplus in the western rivers to replace its uses on the eastern rivers.

The delegations met again in Washington in December 1954 to work on the Bank's proposal. After extensive studies of the available flow supplies and river losses and gains, the Bank issued an aide-memoirs in May 1956 confirming that the surplus supplies in the western rivers would be insufficient to meet Pakistan's replacement needs in certain periods and that its original proposal has to be modified to include storage works. Pakistan accepted the modified proposal but India said its financial liability should be limited to the original Bank proposal.

The next four years of negotiations to reconcile differences on several issues were difficult, sensitive and frustrating, but the Bank continued its efforts with patience and perseverance, threatening on occasions to discontinue its assistance if the parties maintained their uncompromising positions. Simultaneously, recognizing that the countries could not afford to bear the huge projects costs, the Bank mobilized the support of Australia, Canada, New Zealand, the United Kingdom and the United States for financial assistance. After long, intensive, and difficult discussions, the Indus Waters Treaty was finally signed on September 19, 1960.

The Bank's success was due to perseverance, ingenuity in keeping the negotiations alive, and its ability to provide financial assistance. The longer the negotiations continued, the more difficult it became for anyone of the parties to take responsibility for breaking them off. Moreover, no one had an acceptable alternative to settlement. The Indus Waters Treaty is a landmark in the Bank's role as an international mediator. Nine years passed between the Bank's first initiatives and the final signing of the Treaty - the longest negotiation the Bank has ever undertaken. It was a vital achievement that ensured life-giving irrigation supplies to millions of farmers and averted the possibility of a disastrous war over the issue of water.

as proactive a role as for the Indus to stimulate the riparians concerned to accept its good offices.

The Bank's policy towards international water affairs is essentially set out in OD 7.50. This document is oriented to the resolution of potential disputes arising out of requests to the Bank for project assistance. Whereas it does not exclude the possibility of a wider Bank role as discussed in this paper, it is reactive rather than proactive, and may well have deterred initiatives by the Bank as well as discouraged riparians' requests for assistance.

Experience has shown that where riparians have been able to establish cooperative arrangements and treaties that are backed by governments, successful and sustainable development programs have followed. Important are the well-known case of the Indus Waters Treaty of 1960 between India and Pakistan, the Parana agreement (Itaipu) of 1966 between Brazil and Paraguay, and the Nile waters agreement between the Sudan and Egypt of 1959. The agreement signed between Mali, Mauritania and Senegal in 1972 led to the construction of storage dams on the Senegal River. However, in this case the associated development of irrigation and power has been delayed, thus detracting from the economic benefits. More recent examples, and two with which the Bank is associated, are the agreements between Lesotho and the Republic of South Africa (RSA) for the Orange River and between Swaziland and the RSA for the Komati basin (Box 3). Although it is too early to judge the success of these last two agreements, the indications to date are favorable.

An examination of the endeavors to formulate agreements and joint actions between riparians shows, that where the Bank played a proactive role as in the case of the Indus Basin, a treaty was established and the riparians are enjoying the freedom to develop the allocated resources; where the Bank did not intervene (e.g., the Senegal River), the resources were developed inefficiently; where some riparians established treaties without consulting other co-riparians (e.g., the Nile Basin - Box 4), disputes are continuing; where the Bank explored the possibility of intervention but the riparians were not ready to accept its good offices (e.g., the Euphrates and Tigris Basin) (Box 5), the disputes remain unresolved. It has also been demonstrated that external assistance and encouragement is a valuable, and sometimes an essential ingredient of success (e.g., Indus, Senegal, Orange and Komati river developments). In particular, many river basin organizations would not survive without the support of external agencies. Of course the external agencies cannot do much if the riparian countries compete over dwindling supplies and are not prepared to work out fair and mutually acceptable solutions (e.g. Jordan River Basin (Box 6).

Need for Bank Assistance

The rapidly growing demands for water supplies in all sectors, and the concerns of water quality, environment, and increasing marginal costs of additional supplies, have become major issues in national development planning as well as in the Bank's country assistance strategies. As these problems become more pressing and difficult, the need to establish cooperative arrangements between riparian countries to plan and use the available water resources more efficiently becomes more acute.

Box 3. International Cooperation in Developing the Komati Basin

A recent example of an international initiative in the development of shared waters is found in the Komati River which rises in the Republic of South Africa (RSA), flows into Swaziland and then back through the RSA and finally into Mozambique. The current initiative is essentially between the RSA and the Government of Swaziland (GOS), but Mozambique has been consulted in tripartite talks.

In the territories of the RSA and Swaziland the total catchment area of the Komati and its tributaries is about 11,000 square kilometers, and mean annual runoffs is about 1,300 million cubic meters. The river system is therefore small by international standards, but the efficient and timely exploitation of its resources for all purposes are of crucial importance to the economic development of the region.

The RSA and the GOS concluded two draft treaties in November 1991. One treaty establishes a joint water commission, which will be a technical advisory body on all matters concerning water resources of common interest. The other treaty focuses on the specific development of the Komati Basin, governs the cost sharing and the construction of two major storage dams and the water allocations from them, and establishes an executive agency to be responsible for both the construction and operation of the dams.

During the lengthy negotiations on the terms of the treaties, major disputes have been avoided largely by the adoption of a thorough planning process. In this process, both the RSA and the GOS have made open and objective evaluations of their respective national requirements and potential for making beneficial use of the Komati waters. The principles set out in the Helsinki rules of the International Law Association have formed the background for negotiation.

The Bank has assisted the GOS in the preparation of its plans through a UNDP financed and Bank executed project that provides the GOS with the services of an adviser and panel of experts. The panel covers a full range of expertise in the development of international rivers including water resource planning, dam design, irrigation, power, resettlement, and legal and environmental matters. In addition, the Bank has been asked to give its advice and comments particularly on such matters as the substance and legal form of the treaties, resettlement, environmental impacts, finance, and economics, as well as overall strategy.

The Komati project demonstrates yet one of the many ways in which the Bank can support and contribute to collaboration between riparians for the development of international rivers.

The need to establish cooperative arrangements in river basins such as the Euphrates, Tigris and the Jordan was acute for many years; it has now become urgent. The need to extend some limited existing agreements, such as the one for the Nile between the Sudan and Egypt, to embrace other riparians is receiving increasing importance. On Mekong, where a basic institutional framework for riparian cooperation already exists, and initiatives to reinstate the membership of Cambodia and add that of China are in progress, there is a need for external support for the sound and sustainable elements of the programs already developed during the past three decades. The situation in the Ganges-Brahmaputra river basin is different. Here

Box 4. The Nile Waters Agreement

The Nile and its headwaters flow through nine African States: Burundi, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda and Zaire. The Nile basin covers approximately one-tenth of the African Continent. Countries sharing the basin suffer periodic droughts and starvation in some areas. History has shown that cooperation on resource management and development among the nine riparians of the Nile has been difficult to achieve.

The 1959 Nile Waters Agreement forms the basis for the allocation of Nile Waters between Egypt and Sudan. This agreement was based on the construction of the Aswan High Dam and the assumption that there would be an annual mean flow at Aswan of 84 billion m³, of which Egypt was allocated 55.5 billion m³, Sudan 18.5 billion m³ and losses were estimated to be 10 billion m³. The agreement did not reserve any water for upstream riparian countries. It did, however, establish procedures that Egypt and Sudan were to follow in settling the claims of upstream riparians for a share of Nile waters. The agreement notes that:

As other riparian countries on the Nile besides the Republic of Sudan and the United Arab Republic claim a share in Nile water, both Republics agree to study together these claims and adopt a unified view thereon. If such studies result in the possibility of allocating an amount of Nile water to one or the other of these territories, then the value of this amount shall be deducted in equal shares from the share of the two Republics.

As yet there have been no formal claims from other riparians to put this procedure to the test.

major long-term planning is dormant due to the lack of cooperative arrangements between the riparians. In those international river basins that have no current conflicts in water allocation, such as the Zambesi, the need for the riparians to start joint planning is no less important.

Riparian countries are aware of these needs, but they are unable to establish cooperative arrangements on their own because they are not sure how they would affect their existing and future water rights. Suspicions and uncertainties about their potential impact are often too strong to overcome. They need assistance of an international, credible, and impartial organization. The mere existence of such an organization and its willingness to help are not good enough. It should play a proactive role to gain their confidence and convince them that they would be better off availing themselves of its good offices than otherwise.

The fact that the Bank's good offices were not sought since the Indus Treaty was signed 33 years ago does not necessarily suggest that riparian countries do not consider the Bank credible and impartial enough to help them. Rather, it indicates that the Bank has not been proactive enough to build their confidence and convince them that they would benefit, not lose, by availing themselves of its good offices.

Box 5. The Euphrates and the Tigris Rivers

The Euphrates originates in Turkey which contributes 94% of the flow, 4% being added in Syria with no significant amount originating in Iraq. The Tigris receives about 40% of its flow from Turkey, 50% from Iraq and 10% from Iran. The two rivers join to form the Shatt-al-Arab waterway before entering the Persian Gulf.

Withdrawal for irrigation is the predominant water use in both basins, accounting for more than 80% of total abstractions. More than one million ha is irrigated in Iraq from the Euphrates and more than two million ha from the Tigris and its tributaries. While Syria and Turkey have much less irrigation, both have ambitious reclamation programs and a significant proportion of the flow could be lost via evaporation from existing and proposed storage reservoirs.

As cities grow and modernize, per capita consumption of water is also increasing. Projections show substantial depletion of water resources, especially in the Euphrates. While the Tigris is thought to have more water and to be less susceptible to depletions, it would also be substantially affected by the full development of all proposed irrigation projects and in any case the two river systems are increasingly inter-connected. These developments could lead to severe flow reductions in the Shatt-al-Arab, resulting in a deterioration of the situation in the lower reach of the river system and the delta. The main issue is thus the reconciliation of the conflicting interests of all riparian countries.

Rapid economic development without adequate attention to environmental issues has caused such serious damage in some countries that only enormous investments have a chance to rectify the accumulated degradation of their productive environment. Some East Asian countries, justifiably known as the architects of economic miracles, illustrate this problem. Heavy metal and organic wastes in East Asian rivers have registered levels well above acceptable standards. Industrial wastes have contaminated the heavily fished waters in China, Indonesia and Thailand. The economic dynamism of these countries and their growing urban population are placing unsustainable demands on groundwater supplies while surface water supplies are increasingly polluted. The polluted Danube, Amu and Syr rivers in Europe and Central Asia Region also illustrate the serious accumulated degradation of their productive environment (Box 7).

The need for unpolluted rivers and acceptable quality of water supply at affordable cost will be the crisis issues in the next century. These issues are more intractable in the case of international rivers where the required planning and development often remains dormant due to the lack of cooperation among the riparian countries.

The concerns expressed by the delegates to the International Workshop on Comprehensive Management of Water Resources held in June 1991 and their unanimous

Box 6. The Jordan River Basin

The Upper Jordan and its tributaries originate in Syria, Israel and Lebanon. Jordan and the West Bank also have vested interests in Jordan flows. The Upper Jordan is fed by springs (relatively steady flow), the largest of which is the Dan Spring in Israel. The Hasbani river (northern tributary) is fed by springs in Lebanon. The Baniyas river is fed by the Hermon Spring in the Golan Heights in Syria.

The Upper Jordan discharges its flow into Lake Tiberias which is the major storage within the basin. Israel diverts water directly from the lake into the National Water Carrier. The main tributary is the Yarmouk which flows between Syria and Jordan for about 40 km before joining the Jordan 10 km downstream of Lake Tiberias. Syria and Jordan withdraw water from the Yarmouk river to irrigate about 15,000 ha and 12,000 ha respectively (Jordan withdraws water via its main irrigation project, the East Ghor Canal). Below the confluence of the Jordan and Yarmouk rivers, springs and irrigation return flows contribute to the Jordan river before it discharges into the Dead Sea. This flow is heavily polluted by uses on both banks, an impact that is aggravated by the large scale diversion of water by Israel out of the basin before it reaches the lower Jordan valley.

The main issues are the conflicting claims of the riparian countries; the salinity and heavy pollution of the main Jordan river; the high population growth in Israel and Jordan; and the high rates of water use in both Israel and Jordan which exceed--or soon will exceed--renewable water resources in both countries.

recommendations for a more proactive role of the Bank in international water affairs to promote riparian cooperative arrangements for systematic planning and development of their water resources demonstrate the demand for Bank assistance. They also show that the riparian countries are running out of options and are more willing now to seek accommodation.

The Bank's regional departments, particularly the Africa, Asia, Europe and Central Asia, and the Middle East and North Africa regions, have been receiving requests from riparian countries for Bank assistance. The Bank is already exploring what it could do in the Danube river basin to address its serious water quality, ecology and biodiversity problems.

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Because international water issues are assuming increasing importance in the Bank's development assistance activities, its regional departments have established water resources units

Box 7. The Amu and Syr Rivers and the Disappearing Aral Sea

The Amu and Syr rivers are the large rivers of Central Asia shared mainly by Kazakhstan, Kirghistan, Tajikistan, Turkmenistan, and Uzbekistan. Afghanistan, China and Iran are also riparians but, except for Afghanistan, their uses are not significant. The two rivers have a combined flow of 90 MAF and drain into the Aral Sea which was the fourth largest inland lake in the world until 1960. However, as a result of huge diversions of water for irrigation purposes, the inflows to the sea have reduced from 45 MAF in 1960 to about 4 MAF in 1989. Consequently, the area of the sea has shrunk from 26,000 square miles to 14,000 square miles - a trend which is still continuing.

The Amu and Syr rivers and the Aral Sea present one of the most challenging examples for international cooperation. The issues not only relate to the destruction of the ecosystem of the Aral Sea and the river deltas and the staggering problems of salinity, waterlogging and pollution in the irrigated areas of over 7 million hectares, but also the ability of the riparian states to make cooperative efforts to address these issues. Soon after independence, the riparian states signed the water agreement and established the regional institutions for coordinated management of their common water resources. The World Bank, UNEP and the UNDP are supporting their efforts. Their success, however, depends on their continued cooperation and their commitment to address the formidable problems of the Aral Sea Basin.

to explore how the Bank could address the increasing riparian requests for assistance. However, the units at present are too small and inadequately equipped for the size and complexity of the tasks they are trying to address.

Emphasis on Sustainable Development Objectives

Economic development of riparian countries is, and should be, the primary reason for Bank intervention in international waters affairs. This implies that the Bank should be ready to assist riparians, not specifically for settling disputes, but more importantly to help them to establish cooperative arrangements to reconcile their differences and develop their common water resources for their benefit. There are many examples where countries need help in establishing cooperative arrangements for the construction of either national or common river basin works although there are no existing or potential disputes. This is true in much of sub-Saharan Africa. Therefore, a more proactive Bank role in international inland water issues than is envisaged currently in OD 7.50 is required to address these needs. The main objectives of a proactive Bank role are:

- to assist riparian countries in addressing the problems outlined in Sections C, D and E above;
- to avoid a situation whereby priority developments become blocked because of existing or potential disputes over sharing of water resources; and,

- to reduce inefficiencies in the use and development of scarce water resources of developing countries for lack of cooperative efforts in planning and development.

There is often a need to develop hydro-electric power on rivers where there is no immediate water shortage, and hence no dispute on water allocations. Furthermore, it is often beyond the capacity of any one country to finance a major river basin project. Cost sharing between riparians is a prerequisite to any significant development. This is the underlying objective behind several river basin organizations established in Africa to develop a practical framework for joint action.

The Process through Which the World Bank Can Help

A proactive Bank role could be founded on two broad Bank policies:

- The Bank should make known to riparians that it will play a proactive role in international water affairs to assist riparians in establishing river basin cooperative arrangements and executing treaties for the planning and development of water resources for their mutual benefits.
- The Bank should prepare the ground and create the conditions that enhance the confidence of riparians in the Bank's ability, neutrality, and its comparative advantage in providing assistance and that in the pursuit of their joint developmental objectives, they would be better off with the assistance of the Bank than without it.

The Bank has several comparative advantages in playing a proactive role in international water affairs that should appeal to riparians and gain their confidence in seeking its assistance. They include its mandate and commitment for development; its continuing financial and technical assistance to riparians; its international character, neutrality, and independence; and its close links and cooperative programs with international agencies and regional banks concerned with water. The Bank's long experience in development of water resources for irrigation, power, flood control, water supply and other purposes, are its great assets.

Riparian countries are also aware that there is no third party as well placed as the Bank to assist them in addressing international inland water issues, finding fair and equitable solutions, and mobilizing the resources to implement such solutions. The United Nations has not played a major role in negotiating the settlement of transboundary water disputes although some of its agencies are involved in water development activities that facilitate riparian cooperation. Bilateral donors are reluctant to risk their political and commercial interests in riparian countries.

Among the main areas where the Bank can make major contributions to international river developments are:

- arrangements for collection and exchange of hydrological and other data of interest to riparians; for example, the Bank is currently engaged in a UNDP/IBRD project to enhance the collection and processing of hydrometeorological data throughout sub-Saharan Africa;
- river basin planning and project preparation and exchange of information on proposed projects;
- establishing cooperative arrangements for systematic and unified development of the basin's water resources;
- arrangements for resolving disputes; and agreement that each riparian country will avoid doing anything unilaterally that could cause appreciable harm to the interests of other riparians in terms of their existing and potential water rights;
- mobilizing resources to finance planning and implementation of international river basin development projects.

River basin planning is an area where the World Bank has a strong comparative advantage. By supporting sound planning studies, the Bank would assist bringing in objectivity to the analysis of water sharing and to the ultimate conclusions on water allocations.

The assistance that can be provided by the Bank in fund raising, both for studies and project implementation, provides a strong incentive for riparian countries to solicit assistance from the Bank at an early stage in the development program.

Opportunities and Challenges

The increasing demands for assistance in international water affairs have opened up unique opportunities for the Bank to extend development assistance to riparian countries where inefficient use of scarce water resources, increasing pollution, and the lack of riparian cooperation are seriously threatening sustainable development and productivity of the environment. Bank assistance in such cases provides incalculable economic benefits to the countries because the problems are too interactive for them to address on their own and no other external agency may be willing, or credible enough, to intervene.

While the opportunities are great, the challenges they pose are formidable. Despite its unique comparative advantages, it would not be easy for the Bank to establish its credibility and gain the confidence and consent of all riparians to stake their future. Riparian countries do not want any kind of interference with their existing uses and water rights. They zealously safeguard their potential uses and rights even when they do not have the faintest notion of what they would be in the future. In an environment charged with such real or imaginary doubts, suspicions, and uncertainties, the success in the Bank's proactive role depends as much on its persuasive and diplomatic abilities as it does in its technical, economic and financial expertise. The Bank's strengths in development diplomacy may be limited, but it has the ability to develop

the expertise whenever it enters in new fields of development, as it has done in the past in such cases as education, rural development and population planning.

The process of mobilizing riparian confidence in the Bank's good offices, developing consensus on difficult technical, legal and political issues, and formulating programs that meet reasonable expectations of all riparians is difficult, long, and often frustrating. Bank assistance in international water affairs is different from its normal lending and technical assistance operations. It requires long-term commitments without the guarantee of success. There may be occasions when progress is too frustrating to see the usefulness of continuing the efforts. Frustration is inherent in the process, both for the Bank and the riparians. In such cases temporary postponement of efforts is often useful for all concerned to reassess their respective positions. But it would be a mistake to abandon the efforts too quickly because the economic costs of prolonging disputes and deferring developments indefinitely are immense. The Bank experienced such frustrations in the Indus Basin dispute, but its determination and dogged perseverance led to success. The countries also desperately needed success as much as the Bank did. In most cases of this type the Bank must display patience, resolve and diplomacy.

Proposed Policy and Strategies

The Bank should adopt a policy of playing a more proactive role in international water affairs. This policy should be extended to include interstate or interprovincial matters where it is appropriate to do so, or where they form an integral part of the international considerations. Although the policy should focus on surface waters it should allow for a consideration of groundwater in special cases. Within this broad policy framework, the Bank's proactive role should embrace the following strategies :

- Undertake interventions primarily with a development objective. Any contribution towards the settlement of disputes should be a derivative of such intervention, and not a primary motive.
- Assist riparian countries in their own efforts to establish cooperative arrangements and joint programs for international river basin development. The Bank should not assume a direct role as either planner or "broker" unless the riparians make specific requests for the Bank to do so.
- Recognize that the fundamental first step in any progress towards a joint development program is to build riparian consensus on cooperative arrangements for exchange of data and plans; seek agreement to avoid unilaterally causing appreciable harm to the interests of other riparians; and where possible, to bring the riparian countries together in some kind of effective forum.
- Adopt a flexible approach to any initial intervention without preconditions; and explore the most appropriate approach and form of Bank assistance.
- Focus on those international waters where the Bank's intervention is likely to

produce favorable responses. Actions should be even-handed and be directed to all significant riparians.

- Play a more active part in the legal organizations (such as the International Law Association and the International Law Commission) that, from time to time, frame rules for the uses of international inland waters (such as the "Helsinki Rules").

A proactive policy does not mean that the Bank should get involved in every transboundary riparian negotiation or dispute. Rather, it should help to promote dialogue, improve analysis, and induce constructive riparian cooperation. No Bank activity would be justified if it is not welcomed by the concerned countries. On the other hand, the Bank should equip itself to be responsive when there is a demand for it to be involved in complex and sensitive riparian issues.

The present Bank policy (OD 7.50) does not provide adequate direction for staff to play a proactive role of the kind described above. OD 7.50 is curative rather than preventive in intent, and it has a strictly limited project orientation. It is not good enough for encouraging and assisting creative options in situations where many riparian countries of widely different sizes, technical capacity, and economic power are involved. Yet there are numerous opportunities for the Bank to contribute in various ways to international river development programs with the objective of improving the efficiency of resource allocations. There are also many modalities of intervention. The Bank should not necessarily seek a comprehensive role in each case. Rather, it should adapt its role to the specific circumstances.

The Bank's policy (OD 7.50) does not specifically cover groundwater. International law relating to groundwater is at an emerging stage. Furthermore, any rules that might be promulgated would be difficult to implement, given the technical difficulties in evaluating groundwater resources, their movements, sustainable quality, and other aquifer characteristics. Although major unconfined aquifers normally form a significant hydrologic component of river systems and for that reason can be regarded as being governed by international river law, it seems prudent for the Bank to adopt a flexible approach.

The Bank should recognize the need to formulate a policy to cover groundwater, conduct the necessary studies, and develop the technical capacity and data-base to implement such a policy. In the interim, however, the Bank should be willing to apply the principles of OD 7.50 to specific cases where it is confident that it is in a position to make the necessary technical conclusions about groundwater, whilst declining to do so in other cases.

Bank involvement in international water affairs requires developing consensus and mobilizing support on complex and sensitive legal, political and technical concerns of all riparians, big and small, and rich and poor. This activity is different from lending and technical assistance operations where the Bank deals with a single country with a relatively homogeneous and clearly defined concerns, objectives, priorities and programs. Therefore, the Bank needs an institutional structure whereby requests for assistance, under a proactive policy, could be addressed objectively, competently and effectively.

The Bank's regional operations divisions are too deeply involved in projects and programs with defined tasks, budgets and time schedules to address the multi-faceted and the multi-country sensitive and long-term activities concerning international water affairs. The Regions need special focus and special skills to respond to riparian requests effectively. The Regions are well aware of these needs and some of them have already established water resources units and appointed water resources advisors to respond to the increasing riparian demands for assistance. However, these units are too small and inadequately equipped for the size and complexity of their tasks. They need to be substantially expanded and reinforced with the required expertise in order to play an effective role.

A proactive Bank role in international water affairs requires three levels of essential activities outlined below:

- Global - research, policy, increasing global awareness and conscience raising, empirical approaches to dispute resolution, strategic studies covering technical, legal and environmental issues, dissemination of experience, and training
- Regional - a variety of pivotal operational roles such as technical advice, good offices, and funding
- Country - implications of international water issues for sustainable water resources development and protection of the environment

Beyond the regional arrangements, there is a need for a source of expertise in various aspects of international water affairs. These would include any or all of the many specializations required to undertake the following functions:

- Research on the dynamic development impacts of addressing international river basin planning and development issues, and the new pressures arising for assistance in such issues.

- Research studies on the successes and failures of past international river basin developments, the effects of successful settlement, and the factors that contributed to success; these studies would cover cases in both developing and developed;
- Working closely with the Bank's Legal Department in following up developments in international law on international inland waters, examining their impact on the Bank's policies and practices, and initiating research and new strategies as appropriate.
- Mobilizing the commitment and support of international and bilateral financing agencies for addressing the problems of riparian countries.
- Increasing global awareness of the importance of addressing international water issues to ensure sustainable development and protect the environment.

Conclusions and Recommendations

- (i) There is strong consensus in the Bank on the need to make better progress in promoting the cooperation of riparian countries for sustainable development of international inland waters. Progress in development is often hindered by the inability of the riparians to reach agreement on their own.
- (ii) There is also consensus in the Bank that it should play a more proactive role in international inland water affairs.
- (iii) The Bank's activities should be directed towards surface water; however it may be necessary to consider groundwater in specific cases, especially where it forms an important part of the hydrologic cycle of a river system and where the Bank is in a position to make the necessary technical conclusions.
- (iv) The Bank's proactive role should be motivated by its mandate for and commitment to sustainable development. It should pursue this role regardless of whether there are any existing or incipient disputes.
- (v) Where it is appropriate for the Bank to lend assistance, it should do so as early as possible and not wait until disputes arise and sensitivities become less receptive to external assistance.
- (vi) If the Bank elects to play a more proactive role in international water disputes, its policies should be flexible enough to allow it to respond to the

variety of problems encountered in river basin development and take advantage of the several ways in which helpful intervention might be made.

- (vii) Any initiative by the Bank should, where feasible, be even-handed and be directed to all significant riparians of an international river basin.
- (viii) To implement a proactive role in international water affairs effectively, the Bank should establish institutional arrangements that are appropriate for this task which requires:
 - (a) experienced staff who could play a variety of roles e.g., technical assistance, good offices, funding, analysis of water resources and environment programs;
 - (b) carrying out such functions as research, policy, dissemination of experience, conscience raising, global awareness, and support to regional initiatives; and
 - (c) different expertise and perspectives to focus on such issues in international affairs as political sensitivities, risks, prospects of success, timeliness and relevance of Bank involvement, adequacy of preparation, and other implications.

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