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POLITICS OF INTERNATIONAL RIVER BASIN COOPERATION AND MANAGEMENT*

by DAVID LeMARQUAND**

The distinguishing feature of international rivers is the politics of their use and management. The hydrology of a river does not change when an international frontier runs across or along it, only the politics change. Demands on the resource differ between basin countries due to many factors including population growth, economic development, cultural practices, foreign policy objectives and the availability and accessibility of other domestic water sources. These create vastly different priorities for the river's use and obscure the water resource planner's view of the basin as a hydrological unity. Ill feelings between neighbors can further obscure the hydrological perspective. These differences form barriers to cooperation that are often more difficult to remove than physical obstacles.

Throughout the world it is becoming of greater importance to remove these barriers, for the demands on water supplies and the services water can provide are increasing dramatically as the world population rises and the drive for economic development accelerates. Since international rivers constitute a significant portion of the supply,¹ much greater attention must be given to priorities for the management of international freshwaters to supplement domestic supplies and meet the needs for economic development and environmental quality. Failure of the basin countries to work together leads to waste and environmental degradation and can raise tension between countries.

Many river basin institutions are functioning, and much international work has gone into providing plans for the use and management of international rivers, yet the results have not equaled the efforts. Many of the problems are political, beyond the planners' control; there are no easy solutions to improve this performance.

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1. The U.N. identifies over 200 main stem international rivers and points out most non-island countries share part of their freshwater resources with one or more countries. U.N. ECOSOC, Comm. on Natural Resources, *Developments in the Field of Natural Resources—Water, Energy and Minerals; Technical and Economic Aspects of International River Basin Development: Report of the Secretary General*, 3d Sess., New Delhi, 12-23 Feb. 1973, Item 8(c) of the provisional agenda, U.N. Doc. E/C 7/35 (1972).

Despite this constraint progress can be made by establishing the technical and political preconditions for cooperation. This requires some appreciation of the factors that promote cooperation and those that hinder it. This paper points out many of those factors to illustrate some conditions favorable for cooperation, for the operation of effective international basin organizations, and for more responsive domestic and international planning of shared water resources.

HYDROLOGIC-ECONOMIC FACTORS

The river orders relationships between the basin countries. It is the medium by which effects of actions taken in one country, such as water abstraction, flow regulation of waste discharges, are transported to other basin countries. If each country is viewed as an economic unit the physical effects generated in a country that it passes on, through a river, to a neighbor can be regarded as externalities. Dorfman writes: "an externality occurs whenever an action taken by some economic unit has a direct impact on the welfare or productivity of some other economic unit."² When the medium through which the external effect or externality is transmitted is physical, that medium is a common property resource.³ An international river is a common property resource shared among the basin states for it transmits the externalities generated in one country to another. All international rivers can be regarded as common property resources.

Controversies over international rivers arise from questions concerning the distribution of externalities. The externalities may be positive or negative and they also may be reciprocal or unidirectional. No neat formula derived from common property theory can be used to classify these controversies. However, four issue areas can be identified which appear to cover most international river controversies.⁴ These are: public goods, common pool resource, integrated development, and upstream-downstream conflict issues.

Public Goods

Public goods are those goods or services to which each unit, in this case country, has equal access; no one unit can exclude another from enjoying the benefits of the resource; and, finally, the use of the resource by one country does not detract from the benefits

2. Dorfman, *The Technical Basis for Decision Making, The Governance of Common Property Resources* 5 (E. T. Haefele ed. 1974).

3. *Id.* at 7.

4. The following taxonomy was suggested by Irving K. Fox.

enjoyed by the other. Use of the air and navigation on the high seas are examples.

Pure public goods do not exist on international rivers since a riparian country can generally exclude outside countries and use by one country can impair the benefits enjoyed by another. Nevertheless agreements can establish "public good like" conditions, especially for navigation. An agreement permitting unrestricted access for navigation on a river to other basin and outside countries affirms the right of open or free transit, i.e. non-exclusiveness. The incentive to reach such agreement is strong. Increased access and trade benefit all nations without detriment to each other. Each nation profits at little cost to itself and without diminishing the value of the common property resource.

Navigation agreements on international rivers have been one of the earliest and most successful forms of international cooperation.⁵ However, if shipping increases so that congestion becomes a problem, further agreement may be needed to regulate what then becomes a common pool resource. In recent times increased access has been accompanied by physical works such as canalization. Agreements to construct works are examples of integrated developments.

Common Pool Resources

There is significant incentive for agreement for common pool resource issues. These have the same characteristics as the public goods case except that use of the common property resource by one country diminishes benefits to the others, or in some cases such as pollution abatement by one country, provides increased benefits to the other basin countries. Common pool problems most often occur with boundary rivers or lakes when the countries sharing them dispose of waste, withdraw water or do something else with them that has harmful effects on all the countries sharing them. The end result is much like Hardin's case, the "tragedy of the commons," which describes the actions of sheep owners using common grazing land.⁶ In the international rivers case each riparian has an incentive to appropriate the waste assimilative capacity of a watercourse or the water itself in order to increase its own benefits. As long as the costs

5. Peace treaties signed between Austria and Turkey as early as 1616 established navigation rights for the Danube. Similar treaties were signed for the Rhine between France and Germany from 1697. The Congress of Vienna in 1815 following on a 1792 French proclamation established the principle of freedom of navigation on international rivers. The principle formed the basis of several subsequent treaties, including ones for the Rhine and Danube. See L. Teclaff, *The River Basin in History and Law* 59 (1967); Mance, *International River and Canal Transport* 1 (1944).

6. G. Hardin, *The Tragedy of the Commons*, 162 *Sci.* 1243 (1968).

are not borne by a country in proportion to the use it makes of the resource, the river will be depleted or seriously damaged.

The incentive to reach agreement is to avoid the "tragedy of the commons." In the sheep herders case the problem of agreement is more difficult to resolve as the number of herders may be large. The marginal cost in terms of ultimate destruction of the resource attributable to each herder increasing his flock and over-grazing the commons is not charged to him, and thus the incentive to agree on regulation is minimal. However, when the number of users is small, as in the case for most international rivers where seldom more than two countries share a common pool watercourse, the incentive for collective action is greater. The incremental costs felt by each riparian from their own and the other countries' harmful actions are larger and more apparent. Hence the benefits from reaching agreement are more significant to each user. Also, when there is a small number of countries, coordination and implementation of agreement is less difficult. The progress being made in the cleanup of a number of international lakes such as Lake Geneva, Lake of Constance and the Great Lakes come to mind as examples of common pool cleanup operations.

Integrated Development Opportunities

Integrated development of an international river can increase the benefits from use of the river to basin countries over the benefits from national development of the river. Combined development will often have economies of scale which means that the net benefits either country can achieve through independent action will be less than through cooperative effort. Dams for flood control and power production are most typical of this type of development. The motivation of the upstream country to reach agreement is obvious. Regulation of a river will generally provide external benefits downstream for flood control and power for which it will not receive compensation unless there is agreement. An upstream country may be reluctant, in the first place, to go ahead with its projects unless it can be assured of receiving some compensation for the uncaptured benefits it would send downstream. Similarly, if a downstream country thinks its upstream neighbor is not interested in recovering external benefits and will build its project anyway, the downstream country may have no motivation to accept agreement for it will receive some benefit at no cost to itself. However, the more beneficial stream regulation is to the downstream country the more it may wish to have some say in how the river will be regulated.

Difficulties arise in working out an equitable division of costs and benefits. This problem is further complicated by the wide range of alternative schemes of development that can be drawn up for most rivers, each of which entails a different distribution of benefits and costs. Agreement on the Columbia River was bedeviled, for a long time, by these types of problems before agreement could be reached for an integrated upstream-downstream network of hydroelectric and flood control projects.

A variant of the above situation is one in which a project located in an upstream country is designed almost solely for the downstream country. A dam in an upstream country or a reservoir extending across a boundary into that country is characteristic of this situation. The only incentive for cooperation is compensation of some kind from the downstream country. Proposed reservoir development on the Skagit River that would extend across the Canada-U.S. border is an example.

Upstream-Downstream Conflict

There is no economic incentive for cooperation when an upstream country uses an international river to the detriment of the downstream country and that country has no reciprocal power over the upstream country. Consumptive use of the river's waters, irrigation, flow regulation, and waste disposal by an upstream riparian are examples of the all too common upstream-downstream conflicts.

A state that takes advantage of its favored position on a river has no real economic incentive to alter its behavior. The fact that agreements are reached suggests that other factors may persuade a country to cooperate. The willingness of the United States to desalt part of the water it passes on to Mexico on the Colorado River is an example of international cooperation despite a strong economic disincentive. More common though is the salt problem on the Rhine where Dutch and German efforts to get France to restrict severely the amount of salt it dumps into the river have shown limited results.

These four situations establish only a general pattern of incentives and disincentives for cooperation. The incentives to work towards cooperation for a specific international river may be modified by additional water resource considerations. First, between riparian countries more than one type of situation may exist on a river as it flows between and through the basin countries. At one point an upstream-downstream situation may prevail whereas at another point the river may form the boundary. This variation complicates the pattern of incentives. Second, the intensity of water use and interest

in developing or protecting a shared water resource can vary between countries. For one country, such as Germany on the Rhine, the river may be central to the nation's economic, and even cultural and historical life, while for a neighboring country like France, the river may be only of strategic importance. These different attitudes can upset the economic incentives for cooperation. In a common pool situation one country may be totally unconcerned about the assimilative capacity of a shared river or lake while its neighbor is vitally concerned. Where this discrepancy in attitude exists the situation becomes similar to the upstream-downstream conflicts in that one country has no desire or incentive to reach agreement. Third, a particular river may be only one of many international rivers flowing through or between the two neighboring countries. Thus national governments may have to develop a policy for a single river in light of the policies it has for its other international rivers.

INTERNATIONAL RELATIONS

The spectrum of international political objectives countries hold range from specific strategic imperatives necessary for national self-preservation to ethereal goals of a desired world order. International river issues tend to fall in the "middle range of objectives." These objectives are generally concerned with satisfying domestic, social and economic demands through international agreement, or maintaining amicable relations with neighboring countries.⁷ This is not always the case. International rivers agreements may work to legitimize new frontiers. Agreements that provide for recognition of a river as a boundary or even make provision for future cooperative use of a shared resource may have little to do with the river; rather, they may establish, in international law, a new boundary. They may thus help meet "core objectives" regarding a country's territorial integrity. This is especially common after wars.⁸ Under more stable conditions, however, international rivers agreements are more concerned with substantive solutions to problems associated with a shared resource than with using the agreement as a vehicle to reinforce territorial claims.

Since most international river issues are concerned with middle range objectives that are not essential to national survival, policy for

7. Holsti, *International Politics: A Framework For Analysis* 135-136 (1967).

8. *Note*, U.N. *Legal Problems Relating to the Utilization and Use of International Rivers: Report of the Secretary General*, A/5409 (15 April 1963) Vol. I to III, the large number of international river agreements that were signed after major domestic and international political upheavals. U.N. Doc. A/5409 (1963).

these issues is moderate. As the Colorado example indicates other than economic reasons may determine policy. A range of international and domestic constraints and incentives shapes the final outcome of national policy. This section discusses five international relations factors that can contribute to national policy. These factors may either back up the hydrologic-economic motivations for a policy or they may work against them.

Image

The image a country wishes to project can be important. The desire to pursue a good neighbor policy, to be a model of cooperative international behavior, or to be candidly egocentric are examples of national attitudes which may positively or negatively influence a country's willingness to cooperate with its riparian neighbors. Morgenthau comments that making a favorable impression on the public opinion in another country "may be an important or even decisive weight, as compared with all the other factors to be considered in the formulation of a foreign policy."⁹

The concern for national image would appear to be significant in influencing the United States to agree in 1971 to build a desalting plant to treat irrigation drainage waters flowing to Mexico. There was little Mexico could do to convince the United States that it should improve the quality of the water it delivered. Purification of the water was highly uneconomic and dilution of the water was politically unacceptable to the seven Colorado River basin states. Also, the United States government argued that with the remedial works it had already constructed to improve the quality of the water since 1965 its position was, for the most part, defensible in international law.¹⁰ Nevertheless, the United States opted for agreement and chose the uneconomic alternative of a desalting plant. (Uneconomic in the sense that the cost of the water produced would be far in excess of the cost of water that could normally be justified for use in agriculture.)¹¹ It felt that by pursuing its own self-interest, even though justified, it would damage its relations with Mexico, and it would project to the rest of Latin America and the Third World the image of a strong powerful country which pursues its national interest heedless of the consequences to its poorer neighbor.

9. Morgenthau, *Is World Public Opinion a Myth?* N.Y. Times, Mar. 25, 1962 (magazine) at 127.

10. See Gantz, *United States Approaches to the Salinity Problems on the Colorado*, 12 Nat. Res. J. 496 (1972).

11. For a full discussion see Martin, *Economic Magnitudes and Economic Alternatives in Lower Basin Use of Colorado River Water*, 15 Nat. Res. J. 229 (1975).

International Law

Closely related to a nation's image is its attitude towards international law. In the absence of a strong sovereign international authority countries are tempted to ignore international law, or use one of the many legal principles to justify their actions when prevailing legal opinion conflicts with self-interest. They adopt legal and diplomatic arguments that are most advantageous to their interests and objectives.¹² Policy is more likely to be influenced by the country's position within the basin than by international law. The only constraint imposed on national policy is the fear of setting unfavorable precedents in further dealings with neighboring countries and the disapproval of the international community. To illustrate, the United States, which espoused the Harmon Doctrine in its dealings with Mexico over use of the Colorado and Rio Grande Rivers in the last century, did not pursue the Doctrine in further negotiations with Mexico and Canada where for many rivers, including the Lower Rio Grande, it was a downstream country.¹³

Against this background there tends to be an international legal consensus on principles applicable to international rivers. Traditionally four theories governing the use of international rivers have been discussed: (1) the above mentioned Harmon Doctrine which advocates absolute sovereignty to upper riparians, (2) absolute territorial integrity which guarantees, to the lower riparian, use of the river in an unaltered state, (3) drainage basin development, or the community theory, which stresses mutual development of a river's waters by all riparian states, (4) the limited territorial sovereignty, or equitable utilization theory, which permits use of a river's waters to the extent of doing no harm to other riparian countries. This last theory has become the most widely advocated by the international legal community, as evidenced by treaties, judicial decisions, academics, and international bodies.¹⁴ International environmental law supports this principle through its emphasis on liability. The Stockholm Conference's principles 21 and 22 stress non-detrimental use of shared environmental resources and liability for polluting countries. There is also widespread support for the polluter pays principle which tends to support the equitable utilization principle.¹⁵

12. Holsti, *supra* note 7, at 392.

13. A. Garretson, *The Law of International Drainage Basins* 20-28 (1967).

14. Utton, *International Water Quality Laws*, 13 *Nat. Res. J.* 282, 295 (1973).

15. See OECD Principles Concerning Transfrontier Pollution, Section 16 (14 Nov. 1974), which calls for international agreements that strive for "efficient pollution prevention and control measures in accordance with the Polluter Pays Principle."

Despite the apparent consensus, the equitable utilization and related supporting principles do not provide a clear-cut guideline for international agreement that can overcome a country's disinclination to accept agreement on what it feels may be unfavorable terms. Muraro writes, regarding the polluter pays principle, that "Since it is advocated by international law and there is a growing moral pressure for its implementation, the polluted country is rational in refusing to accept the opposite principle."¹⁶ And, the polluter has a strong incentive to reject the principle since it would require the polluting country to abate its discharges at its own expense for its neighbors' benefit. The result is an impasse or compromise in which international law provides only the initial negotiation position of the victim country, not the basis for a final settlement.

Linkage

Agreement with a neighbor for an international river scheme that the neighbor wants may be used to gain concessions for other bilateral issues such as favorable trade arrangements or support for some multilateral policy. These linkages between policy areas, Holsti suggests, may be typical of countries where a high level of conflict is characteristic. In countries where relations are well-established and where there is a tradition of easy communication, such as between Canada and the United States, "issue area isolation" is more common in negotiation.¹⁷ Nonetheless, even between countries where there are few explicit tradeoffs, a more undefined type of linkage consideration may remain important. One country may desire to build up a "reservoir of good will" to draw on when it needs support or a concession from its neighbor for a policy of greater national interest. This factor was no doubt influential in persuading the United States to go along with the Columbia River Treaty when it felt it could do better.¹⁸ There were a number of outstanding issues between Canada and the United States at the time for which the United States sought Canadian support. Signing the Treaty was a means to build up in Canada a favorable sentiment to United States' policies.

16. Muraro, *Economic Aspects of Upstream-Downstream Transfrontier Pollution*, Problems in Transfrontier Pollution: Record of a OECD Seminar 62 (1972).

17. Holsti and Levy, *Bilateral Institutions and Trans-Governmental Relations Between Canada and the United States*, 28 Int'l. Organization 885 (1974).

18. Columbia River Treaty, 33 Hearings before the Committee on Foreign Relations, U.S. Senate, 87th Congress, 1st Sess. (March 8, 1964). Ivan White, Deputy Assistant Secretary of State stated one of the objectives of the United States was to reduce power costs to British Columbia for "we regard Canada as a partner in the free world, and its growth, its economic growth, as being important to the United States."

Reciprocity

The desire for mutual commitment and obligation can often color the thinking behind national policy against agreement, particularly where there is no reciprocal distribution of benefits and costs as with upstream-downstream issues. One country may object to an international water resource agreement if it must make the sacrifices while the benefits are passed on downstream at no cost or obligation to the downstream country. Switzerland, for example, was at first reluctant to discuss the Council of Europe's proposed Convention for the Protection of International Watercourses Against Pollution unless the scope of the Convention was extended to cover pollution of coastal areas, an issue not likely to affect in any way that landlocked country. It felt that as a landlocked country it would have to make great sacrifices for the benefit of downstream riparian coastal countries, like the Netherlands, which could continue to pollute its coastal streams and coastline. Economic, as well as the psychological, motivation for reciprocity is important. A discrepancy in pollution abatement requirements for industry between countries may give one country a competitive advantage in world trade.

Sovereignty

A final international relations factor influencing national policy is a country's natural reluctance to enter into an international agreement. Any agreement to some extent limits a nation's flexibility and, thus, reduces its sovereignty. If all other factors were equal a country would presumably choose independent action over international cooperation. This sovereignty consideration is similar to Ruggie's interdependence cost which he defines as "the general loss of independence or loss of control over one's own activities, resulting from the accumulation of collective constraints."¹⁹ The hypothesis Ruggie draws from this discussion on the propensity for international organization can apply equally well to international agreements. That is the propensity for international organization or agreement "will be determined by the interplay between the need to become dependent on others for the performance of specific tasks, and the general desire to keep such dependence to a minimum level."²⁰

The concern for sovereignty may be strengthened by a country's own nationalism, by bad historical relations with the basin states, by unreliable and unstable riparian neighbors and by the importance the

19. Ruggie, *Collective Goods and Future International Collaboration* 66 *Am. Pol. Sci. Rev.* 878 (1972).

20. *Id.* at 878.

nation attaches to erosion of its national sovereignty. The Indus River Treaty is an example of how all these factors come into play, in a perverse way, as the motivation for agreement. The Treaty provided for the division, at great expense, of the complex Indus tributary and irrigation canal network, which existed between India and Pakistan, so that neither country had to depend on waters flowing from the other.

The concern for sovereignty is a major obstacle in the way of integrated international river development. Confidence must be felt between neighbors before they are willing to commit treasured natural resources to interdependent development and management. Even where trust is greatest, as it is between Canada and the United States, recurring doubts and changing economic conditions may threaten established agreements. For five years, Canada has been attempting to put aside a long standing agreement with the United States to flood the Skagit Valley in western Canada. Potentially more serious is the erosion of Canadian support for the Columbia River Treaty, as Canadians come to question the interdependent pattern of river basin development and the net economic benefit they receive, to which they are irrevocably committed.

The above influences are presented as discrete, but in reality they tend to blend together. Image, linkage and international law may be particularly difficult to disaggregate. For example, to return to the Colorado salinity problem, United States policy appears to have been strongly shaped by the poor image it would project in Latin America and the developing countries but equally strong was the desire to build up a "reservoir of goodwill" with Mexico to facilitate cooperation on other difficult bilateral issues at the time including trade relations, immigrant farm labor problems, and control of illegal drugs entering the United States from Mexico. Also, even though the United States felt confident in its legal arguments, it could not be sure other countries would respect them. Thus, in the examination of specific controversies it may be difficult to distinguish clearly in policy formulation where one influence leaves off and another begins.

CLIMATE FOR AGREEMENT

The international relations factor help form national policy but the success of the policy in the international arena may depend greatly on the conditions that exist between the basin countries to permit ease of communication. Scott suggests four types of favorable conditions that can exist between basin countries: (1) countries with

the same technical perception of a problem; (2) similar tastes for goods and services such as environmental quality or river basin development; (3) the use of the same technologies for production where water quality is an issue; (4) although difficult to define, the existence of an extensive network of transnational and transgovernmental contacts between countries.²¹ The use of a common language can be added as a fifth point.

Russell and Sullivan in a discussion of international common property resources imply three more conditions: (1) the participation of a small number of countries; (2) the desire of one large country to have an agreement in which the proportionate cost of providing more than its share of the costs entailed in an agreement would be less than the proportionate costs of a small country providing only its share; (3) the necessary development by one country of a good or service for its own use which may benefit other countries.²² The extent to which the above conditions are present or missing will strongly influence the climate for agreement.

INTERNATIONAL RIVERS POLICY-MAKING AND IMPLEMENTATION

Hydrologic-economic and international relations considerations in part influence a nation's policy towards cooperation on its international watercourses. Policy-making within the national government and the reconciliation of competing interests in society are important further considerations.

Policy may be advanced from any number of different sources, such as interest groups, parliamentary committees, political leaders, and government departments singly or in combination. For this analysis three types of policy making are distinguished: (1) policy coming from the national bureaucracy without strong political guidance; (2) policy formulated with the active participation and support of the political leadership; (3) non-executive policy-making, i.e. policy, or perhaps more accurately, political demands originating from other levels of government, interest groups or legislative bodies. The feasibility of international agreement may be, to a large degree, determined by the background from which the policy emerges. Where the political leadership in the basin countries support cooperation, obstacles hindering agreement are easier to overcome. More common, however, is bureaucratic policy formulation which more

21. Scott, *Fisheries, Pollution and Canadian-American Transnational Relations* 28 Int'l. Organization 841-844 (1974).

22. Russell and Sullivan, *Collective Goods and International Organization*, 25 Int'l. Organization (1971).

accurately characterizes water resource politics in general and international river policy formulation in particular. Policy demands originating from non-executive organizations are likely to be present in most controversies. Where non-executive groups do not support the policy of the top political levels or the bureaucracy, domestic political conflict will result which may determine the content and domestic political feasibility of the policy that prevails, depending on the power and influence of the opposition.

Bureaucratic Policy Formulation

Water resource issues for particular rivers are normally of regional concern. National political leadership generally is reluctant to step into parochial issues. Their interest is in the broader issues affecting the whole country, and they have little to gain by getting entangled in contentious regional issues.

International rivers have an important national interest dimension; nevertheless international river problems are often of only regional interest, especially in developed countries where any single water resource development generally has minor impact on the economy. Typically the foreign affairs department is left alone to represent the national interest in an issue with minor direction from the cabinet level. However, solutions to any international river problem will generally require the active participation and commitment of resources from a number of other government departments such as justice, finance, water resources, public works and environment. Each department is one among equals. The foreign affairs department, which must coordinate and take the lead in initiating policy, has no more power than the other departments. In fact it may have less. Other departments have substantive jurisdictions and often interest group support, whereas a foreign affairs department has little outside support and is dependent on the other departments for technical expertise and the resources to implement policy. Without strong direction from above, the foreign affairs department is severely restricted in the policy options it can pursue. It is not likely to get the material or jurisdictional support it needs from other departments. Without the political decision being first made at the highest levels, the other departments can not make the political decision to commit resources to foreign affairs or establish a new departmental precedent. The foreign affairs department will be forced to follow a policy that requires the minimum commitment from other departments, most likely a legalistic one that does little to offer constructive proposals for negotiation. Negotiations between governments

may drag on for years. Agreement results from attrition when all bureaucratic processes have been exhausted and internal consensus achieved or when the national leadership finally takes an active interest. Thus, where the political leaders do not participate lowest common denominator agreements are the most likely outcome.

Executive Policy Formulation

A president or prime minister may take an active role in an international river issue if the river is of vital national importance, some principle or precedent of national interest is involved, the cabinet is split, or a neighboring country has escalated the issue to one of outstanding importance between the countries. Where there is a strong commitment by the national leadership to cooperate, the negotiators will have the authority to make the compromises necessary to reach agreement or at least develop a flexible bargaining strategy. With support from the political leadership, the foreign affairs department, which typically is charged with implementing the policy, can exact from the other government departments concessions needed to ensure that the policy can be implemented. Also, the coordinating and implementing agency can deflect interest group criticism to the national political leaders.

Mexico broke the deadlock on the Colorado salinity issue in spite of the constraints which limited the alternatives the U.S. Department of State could offer. In 1972 President Echeverria went to Washington on a state visit and declared to Congress and President Nixon that the salinity issue was the "most delicate problem between our two countries." The effect was immediate. The President appointed a respected former Attorney General, Herbert Brownell, to investigate and propose a definitive remedy to the problem. He was not constrained by departmental biases and he had the support of the President. He recommended the desalting plant, a solution that would normally have been vetoed by at least one department, in this case, the Office of Management and the Budget. In just over a year, a problem that had been in the bureaucratic mill for eleven years with no definitive solution in sight was resolved.

In the Colorado case, the salinity problem was of national importance to Mexico, and the President was willing to raise it as a vital outstanding complaint against the United States. This forced the United States, in view of its image and linkage objectives threatened by Mexico's stand, to consider the issue of national importance. However, the majority of international river controversies are seldom of such significance that one side is willing to escalate the issue to a high level of grievance.

Non-executive Policy Formulation

Policy or political demands that emerge from non-executive sources must be accommodated by the national governments. Following from the work of Lowi,²³ Mann has classified the politics of water resources policy formulation into three categories—distributive, regulatory and redistributive.²⁴ These categories can be adopted to illustrate the conflict and types of accommodation that are made between non-executive groups and national governments to achieve a national policy for an international river.

A. Distributive Politics

Distributive politics are widely known as “pork barrel politics.” Mann describes this form of politics and policy formulation as the “process of coalition building among local interests to achieve some benefit from the public treasury.”²⁵ Typically, for water resources, local political interests will work to develop a unified proposal for a project in the region such as a dam for hydro power or irrigation. The local representatives in the national legislature will then seek approval from the legislature for the national government to fund or construct the project. To get support for the project the regional representatives will support other projects (which may or may not involve water) that the members from outside the region seek for their own region, in return for their support. The only real losers in the process are the treasury and those people advocating fiscal restraint. As a result, Mann comments, there is a “relative lack of confrontation between those who gain and those who lose as a result of the adoption of the proposal.”²⁶ Also in the “log rolling” to achieve consensus “there is very little in the way of ‘policy’ as an outcome since each locality receives a benefit that is peculiar to itself.”²⁷

For international river issues the highest level of coalition building would be between two branches of government which need each other's support for some particular objective. The same would hold for two levels of government in a federal system, where each side needs the cooperation of the other to implement policy. The provincial level typically will have responsibility over the resource in ques-

23. Lowi, *Four Systems of Policy, Politics and Choice*, 32 *Pub. Ad. Rev.* (1972).

24. Mann, *Conflict and Coalition: Political Variables Underlying Water Resource Development in the Upper Colorado Basin*, 15 *Nat. Res. J.* 141 (1975).

25. *Id.* at 142.

26. *Id.*

27. *Id.*

tion, while only the federal government can lead international negotiations.

The accommodation between the United States Congress and President Nixon over salinity control on the Colorado is an outstanding example of distributional accommodation. Congress supported the President's demand for a desalting plant to satisfy Mexico. In return, the President did not veto Congress's basin-wide salinity control program. Distributional accommodations provide a stable basis for agreement as the potential opposition to agreement is co-opted by receiving some benefit from agreement. Needless to say, this type of policy formulation does not often satisfy economic rationality.

B. Regulatory Politics

Regulatory politics sets the ground rules for directing behavior within society. Whereas distributive politics solves political problems by the increased expenditure of government funds to buy out the opposition, regulatory politics is concerned with controlling behavior. It has the effect of raising costs and reducing or expanding the alternatives open to individuals and groups.²⁸ Conflicts over establishing standards, guidelines, rules and criteria are the type of political issues typical of regulatory politics.

Regulatory policies are more difficult to establish than distributive ones because there are fairly well established winners and losers. The losers may attempt to use the final decision as the basis for further action to re-establish their own interests.²⁹ The impact of the policy is generally sectoral, as are the battlelines, e.g. environmental groups vs. polluting industry, labor vs. industry, and interest groups vs. government efforts to establish waste discharge and water quality standards for international rivers. In Germany, for example, industrialists are allied to some provinces on the Rhine against the federal government's domestic and international efforts to establish stiffer basin-wide water quality regulations and standards.

C. Redistributive Politics

Redistributive politics concern reallocation of wealth and income or goods and services within a nation or control over resources between levels of government. Thus broad classes of people come into conflict, often in ideological terms, over how the wealth of a society

28. T. Lowi, *Distribution, Regulation, Redistribution: The Functions of Government*, in *Public Policies and their Politics* (Ripley ed. 1966).

29. Mann, *supra* note 24, at 142.

should be distributed on such policies as income tax and welfare programs. For the purpose of this international rivers discussion, redistributive politics will be more widely defined to include those controversies in which one group must give up something directly to another group. This would include reallocation of water rights in a river and the redistribution of authority between federal and provincial governments in federal state. A government that must settle a domestic controversy of this nature before signing an international agreement will have more difficulty than one which is not facing redistributive problems.

In federal systems, federal-provincial conflicts over international rivers may not involve the water resource so much as the desire by either level of government to secure authority over issue areas which they feel ought to be within their own jurisdictions. For example, the German federal government is suspected of using its authority as a national representative in negotiation for multilateral water resource conventions as a means to extend its control into the states' jurisdiction over water pollution control.

CONCLUSIONS

There is no easy way to remove the barriers to international river basin cooperation. However, some conditions facilitate cooperation. Where there is empathy and shared perceptions of problems between countries, such as between Canada and the United States, negotiations tend to be easier. If both countries can gain or lose by the actions of the other there is a strong motivation to reach agreement. Where competing interest groups within the basin countries can all benefit from agreement through a distributional accommodation, the prospect for getting domestic support for agreement will be much better than if some powerful groups or regional authorities will have to be regulated or make major concessions to meet the terms of the agreement. Finally, if the chief executive of the basin countries can be motivated to make a commitment to resolve the issues, definitive and innovative solutions may be more easily accomplished than if negotiations are left to the representatives of the government departments.

On the institutional level, international river basin organizations can be most innovative and operate most effectively when there are reciprocal interests in the outcome of the institution's work by the basin countries. This is most likely in public goods, common pool, and integrated development situations. Upstream-downstream situations will be the most restrictive. Two institutions within the Rhine

basin illustrate the constraints on international organization. The International Commission for the Protection of the Rhine Against Pollution has only modest functional tasks, like data recording, and no substantive independent authority. Only the Netherlands, among the Commission's members, is willing to give up policy-making authority to strengthen the Commission. The upstream countries do not share the Netherland's commitment to a stronger river basin organization, for they would lose some sovereignty in policy-making with no appreciable offsetting benefits.

In contrast, where there are reciprocal benefits and interdependencies, basin states will forsake a limited degree of sovereignty. Within the same basin the International Moselle Company is implementing complex navigation developments for the canalization of the Moselle. The Company is one of a new breed of international organizations, an independent international public utility corporation. It finances and coordinates construction of the works for its share holders, the three basin countries—France, Luxembourg, and Germany. Its independence of action, in these integrative projects of vital national interest to the three countries, illustrates the loss of autonomy a basin country may tolerate when it has the same incentives as the other countries. Nevertheless, the restricted authority granted the corporation shows that the countries are not willing to extend jurisdiction very far from technical and functional activities into areas that may have broader national policy implication.

The degree of interdependence necessary to achieve mutual objectives appears to set the limit to the authority an international basin organization can have. Large scale interdependencies between basin countries are rare, as one country generally will have some advantage over the other. The favored country will reject proposals for the creation of organizations that limit or reduce their flexibility in making policy for the use of their share of the river. In poor countries it may be possible to create interdependence, where little exists, by making technical and financial aid by donor organizations and countries for river basin development contingent on the basin states working out a unified policy. However, such a policy may be unacceptable since it could distort national development in one or more countries away from high priority investments in other segments of the economy into lower priority international basin developments.

On the operational level, planning for cooperative river basin use may be misdirected if it pursues exclusively traditional planning approaches of economic efficiency. Economic efficiency is seldom the principal objective for management and use. As the Colorado

salinity case illustrates, any number of objectives may be sought from cooperation which have little to do with the impact of the project on the national economy. Often, however, the political leaders do not have the information needed to assess proposed cooperative schemes in terms of the non-economic objectives they hold. Without a full understanding of the consequences of interest to them from accepting particular alternatives they may be reluctant to commit their countries to an agreement. Thought needs to be given to the types of planning strategies that would be appropriate to the political reality within the basin and the information requirements of the negotiators and political leaders. At this point it is enough to suggest that planning must provide the information and assessments on the consequences of pursuing alternatives in terms of the range of objectives held by the national political leaders. This approach should bring into the open the political obstacles that may be hindering agreement to enlighten both domestic and international debate on the advantages of the cooperative use and management of international rivers.