

**AGRICULTURAL IRRIGATION CONSERVATION
PROJECTS IN THE DELICIAS, CHIHUAHUA
IRRIGATION DISTRICT:**

A Report on Public Participation, Certification and Early Implementation

ENGLISH EXECUTIVE SUMMARY



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Much attention has been garnered by the controversy between Mexico and the United States regarding Mexico's delivery obligations under the 1944 Treaty governing allocation of the waters of the transboundary Río Grande/Río Bravo. Throughout this basin, where irrigated agriculture accounts for 85 to 90% of surface water withdrawals, farmers are complaining about drought, water shortages and consequent reductions in irrigated acreage. Growing municipal demand is putting added pressure on the river, and environmental water needs are only beginning to find a place at the table.

Prodded in part by a need to move toward resolution of the controversy and with a view towards more sustainable water management throughout the basin, in the summer of 2002, the two federal governments agreed that the binational North American Development Bank (NADBank) would devote \$ 80 million to conservation projects for irrigated agriculture. Forty million was allocated to Mexico, and \$ 40 million to the U.S.

Mexico chose to focus its efforts on the Delicias Irrigation District, in the northern Mexican state of Chihuahua. Delicias is the largest irrigation district in the Río Conchos and the Conchos itself is the most important Mexican tributary to the Río Bravo/Río Grande. The conservation projects first had to receive certification from the Border Environment Cooperation Commission, the NADBank's sister organization.

Recognizing the importance of this first binational foray into agricultural water conservation, Environmental Defense contracted with Dr. Concepción Luján Alvarez, a professor at the University of Chihuahua's Delicias Campus, to monitor and evaluate the certification process, the participation by local farmers in the development and approval of the projects and the early implementation of the conservation projects that received certification.

Dr. Luján met with representatives of the Comisión Nacional de Aguas (CNA), the federal agency with primary responsibility for the projects, with representatives of the irrigation district, with the BECC, and with the Chihuahua state government to get the full range of perspectives on the public participation and certification process and the early implementation. He also attended the various local public meetings and visited some of the projects as they got underway.

The full Spanish language report accompanying this summary presents Dr. Luján's findings and recommendations in detail. A brief summary of the major findings and recommendations follows:

Findings and Conclusions

Securing full approval of the agricultural users associations in the Delicias District for the conservation projects was a major challenge for CNA. The farmers were skeptical about the purported benefits of the conservation programs and they were initially strongly opposed to signing "convenios" which would reduce their water rights by the amount of water saved through the conservation projects. Many farmers also expressed strong opposition to the idea of the conserved water being devoted to fulfilling Mexico's delivery requirements under the 1944 Treaty.

Eventually, after many public meetings, almost all of the users associations in the District approved the projects and agreed to sign the convenios, though the actual amount by which their water rights will be reduced will not be set until the entire contemplated set of conservation projects are completed (four years from now).

The role of the federal government was key to the successful approval and certification of the projects. The federal government's commitments to more sustainable and effective management of water and its ability to coordinate the various actors involved, along with the political will to get approval for the projects was extremely important.

The user associations showed strong opposition to dedicating the conserved water to the Treaty delivery obligations. In part, this is due to the fact that many of the Delicias farmers felt that they had been suffering through a severe drought over the last few years, with substantially reduced water allocations and cutbacks in irrigated acreage. The fact that the controversy between the U.S. and Mexico had received so much press attention in both countries seemed to serve to heighten opposition. Unfortunately, at the end of the day, this issue was largely put aside by CAN in order to move forward. It is likely to arise again, however, particularly as binational negotiations over whether the NADBank will release the \$ 40 million to Mexico come to a head in the next few months.¹

CNA emphasized that the conservation projects should improve net return to the farmers, as they could grow the same quantity of crops with less water. It may be necessary, however, for the government to provide further assistance with respect to helping the users understand the full benefits of conservation improvements, including on-farm conservation measures in addition to distribution system improvements.

There were disagreements between the state and federal governments regarding disposition of the resources for the conservation projects.

¹ Minute 308 of the International Boundary and Water Commission, which set forth the framework for use of the NADBank funds requires: ***. To date, that certification has not occurred and the funds have not yet been released.

The committee for evaluation and follow-up of the projects, which is extremely important, has not yet functioned well. There have been disputes over, among other things, the methods to be used to measure the water savings from the projects implemented. Users favor less technically-complex and easier-to-use methods, while CNA is promoting more accurate, but more difficult methods. There does not appear to be complete agreement on the respective functions of committee members and coordination between the state and federal governments is still presenting problems.

The very short time frame for public participation, certification and implementation of the conservation projects (to be completed before irrigation began in April) provided an added degree of difficulty for this initial phase of projects.

Several important issues—including the quantity by which individual water rights may be reduced under the "convenios" and the allocation of conserved water to the Río Bravo—remain potential areas of dispute and discord in the future. This will be especially problematic if the users do not see tangible economic benefits from the conservation projects or are not pleased with the new, more efficient irrigation technology being installed.

Farmers in this area may not have the resources to install on-farm technological improvements that allow them to take full advantage of improvements in the distribution and delivery system. Additional resources may have to be provided to some farmers, especially those who are in a precarious economic situation due to the area's persistent drought. Sustained technical assistance and training in new distribution or on-farm improvements will also likely be necessary.

Additional planning and resources will be necessary to sustain these improvements over the longer-term and to continually move toward more sustainable water management. A sustained commitment of funding is key to the irrigation conservation program in the Delicias District producing substantial water savings and economic benefit. Additional resources may also be needed over the longer-term for maintenance and operation costs associated with the improvements. The convenios provide that CNA will be responsible for maintaining the principal canals and other major components of the distribution system, but that the users' associations will be responsible for the on-farm and inter-farm improvements.

Continued mechanisms and opportunities for participation in decision-making about conservation projects and water management in the District are necessary for success.

Conclusions

The irrigation conservation projects approved for the Delicias district are an essential step towards more sustainable water management in the Río Bravo/Río Grande basin. The public participation in and certification and implementation of these projects provide some important insights into how similar types of investments might work in other areas of the basin.

The condensed time frame for participation and certification added more difficulty to the process and may have prevented adequate resolution of key controversial issues, especially with regard to dedication of conserved water to the Río Bravo/Río Grande, as envisioned by the accord between the U.S. and Mexican federal governments.

Another significant issue that was unresolved at press time is agreement on how water savings will be measured, something that is key to both release of the NADBank funds, and to the overall success of these conservation investments.

More emphasis must be placed on well-coordinated follow-up and evaluation of the projects and additional necessary assistance to user associations and farmers to ensure the full benefits of the conservation investments are realized at the on-farm level.

Finally, the relevant actors should recognize the need to view these improvements as part of a longer term, strategically-planned effort to improve water management in the Delicias District, the Río Conchos and the basin as a whole.