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### Keep the Farmer Farming—How to Eat Your Water Cake and Have It Too

Raphael J. Moses

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KEEP THE FARMER FARMING --  
HOW TO EAT YOUR WATER CAKE AND HAVE IT TOO

Raphael J. Moses

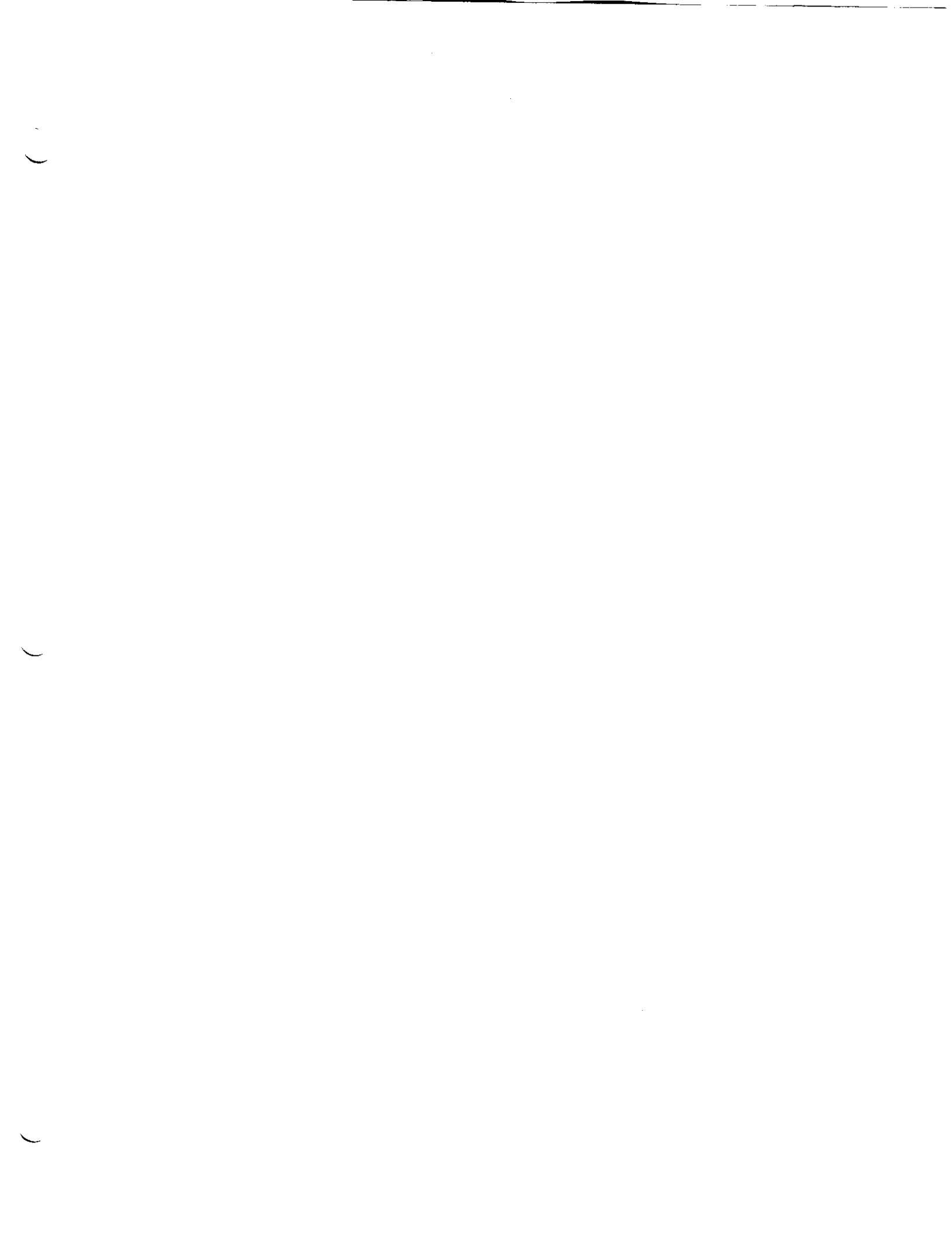
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## I. INTRODUCTION

A. 80-90% of the water used in the West is used for agricultural purposes, and the balance for all municipal, industrial and recreational purposes. If we could save 10% of the water now diverted by agriculture, we could double the amount available for all other purposes, without constructing any new facilities. All of the Western states, with the exception of Arizona and Colorado, allow one who saves water to benefit from such savings, and even in Arizona and Colorado there is potential for realizing these savings. It is elemental that efforts to save water must be driven by opportunity for economic gain.

### B. Reference Sources

1. Sources on the percentages used for agriculture.

a. Caulfield, Henry P., Jr., Viability of Interbasin, Interstate/International Transfers of Water, Water International, Vol. II, No. 1, pp. 32-37 (1986).

b. Engelbert, E. A. and Scheuring, B. F., editors, Water Scarcity: Impacts on

Western Agriculture (hereafter "Water Scarcity") (University of California Press, Berkeley, (1984). A 10% saving through increased irrigation efficiency seems reasonable. See Improving Irrigation Systems, by Marvin E. Jensen, in Water Scarcity, supra, at 218, et seq.

- c. Interagency Task Force, U.S. Department of the Interior, U.S. Department of Agricultural and U.S. Environmental Protection Agency, Irrigation Water Use and Management, 22 (1979).

2. Sources on Statutes and Cases Encouraging or Discouraging Savings.

A good example of a statute encouraging savings is California Water Code, §§382, 383; 1011, which provides, inter alia,

(b) Water, or the right to the use of water, the use of which has ceased or been reduced as the result of water conservation efforts as described in subdivision(a), may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights, including, but not limited to, provisions of law governing any change in point of

diversion, place of use, and  
purpose of use transfer.

R. C. Montana, §85-2-415 Oklahoma statutes, Title 82,  
§1086.1. A statute discouraging savings is the last  
sentence of Colorado's statute 37-92-103(a) which reads:

"Plan for Augmentation" does not include  
the salvage of tributary waters by the  
eradication of phreatophytes, nor does  
it include the use of tributary water  
collected from land surfaces which have  
been made impermeable, thereby increas-  
ing the runoff but not adding to the  
existing supply of tributary water.

Salt River Valley Water Users Ass'n v. Kovakovich, 8 Ariz.  
App. 28, 411 P.2d 201 (1966). Southeastern Colorado Water  
Conservancy District v. Shelton Farms, Inc., 529 P.2d 1321  
(1975), Water Saved or Water Lost: The consequences of  
Individual Conservation Measures in the Appropriation  
States. Bergholz, Warren E., Jr., XI Land and Water Law  
Rev. 435.

## II. PROBLEMS IN ATTEMPTING TO SAVE WATER

A. The path of one who would acquire a right to the  
use of water through water-saving techniques is  
not an easy one.

1. Elimination of waste is not enough, for  
wasted water never belonged to the appropri-  
ator. An appropriator is entitled only to  
water which he can apply to a beneficial use.

2. The return flow regimen must not be disturbed. Many western streams are over-appropriated. In many instances, only by a junior's use of a senior appropriator's return flow can the junior's right be satisfied. If the return flow is reduced, a junior appropriator is injured. Only the historic consumptive use of a water right can be utilized for transfer to the new municipal or industrial use.
3. There must not be adverse environmental effects. Creation of a new water right by elimination of phreatophytes was forbidden in one Colorado case.
4. The burden of proof is on the person attempting to create the new right, and this can be a formidable burden.

B. Reference Sources.

1. Beneficial use is the measure of a water right. Colorado Constitution, Article XVI, Section 6. The appropriation of water consists of two acts, diversion from the natural stream, and application to a beneficial use. Farmers Highline Canal Co. v. Southworth, 1366.111, 21 P. 1028 (1889).



Excessive diversion is not a beneficial use. Combs v. Agricultural Ditch Co., 17 Colo. 146, 28 P. 966 (1892). Water saved by repair or replacement of faulty appliances is not salvaged, because they were not lost to any beneficial use. Farmers Highline Canal Co. v. Golden, 129 Colo. 575, 272 P.2d 629 (1954).

2. Junior appropriators have vested rights in the continuation of stream conditions as they existed at the time of their respective appropriations, and they may successfully resist any proposed changes in use of water which in any way injures or affects their rights. Farmers Highline Canal Co. v. Golden, supra.
  
3. Efficacious use of water does not mean uplifting one natural resource to the detriment of another. There must be a balancing effect, and the elements of water and land must be used in harmony to the maximum feasible use of both. Southeastern Colorado Water Conservancy District v. Shelton Farms, supra. See also National Audubon Society v. Superior Court of Alpine County, 33 Cal. 419, 658 P.2d 709 (1983). When harm to public

trust interests is demonstrated, the state has a duty "to protect the people's common heritage of streams, lakes, marshlands and tidelands."

4. Burden of proof. A major hurdle for one claiming salvaged waters is that these waters must have been previously lost to the system. Bergholz, supra. This is water that formerly evaporated or was transpired by crops. Return flows can be determined, and, if maintained, there will be no injury to junior appropriators. Cache La Poudre Water Users v. Glacier View Meadows, 191 Colo. 53, 550 P.2d 288 (1976).

### III. SOME EXAMPLES--ALL HYPOTHETICAL

- A. New supplies for municipal and industrial needs have, up to this point, been acquired through one of two methods: (1) the construction of new projects, or (2) the purchase of agricultural water rights, their transfer to the new use, and the consequent drying-up of agricultural lands. If we are to develop new water for cities and industry in some new manner, we must look to new methods, either in the actual planning stage, or hypothetical.

1. The Imperial Irrigation District - Metropolitan Water District example. The Imperial Irrigation District was enjoined by the California Water Resources Board from continuing to discharge its return flows into the Salton Sea. Imperial is the largest single water user on the Colorado River. In order to salvage the water now being lost to the Salton Sea, the Metropolitan Water District proposes to construct the necessary works, in exchange for the right to use the salvaged water in its system. Some 250,000 acre-feet of water may be made available to Metropolitan Water District.
  
2. The Thornton Plan. The City of Thornton has obtained options to purchase 12,000 acres of farmland and 35,000 acre-feet of water for \$60,000,000. For an additional \$82,000,000 a pipeline will be built to transport the water to Thornton and another pipeline to transport sewage effluent back to a reservoir near Ault, where it will be delivered to the farmers for irrigation purposes. There are some real legal, economic and environmental problems involved, but at least we have a new, refreshing approach.

3. Salinity Control Program. Although designed primarily to reduce salinity in the Colorado River and its tributaries, the techniques developed to reduce salinity by reducing deep percolation show promise when applied to water salvage plans. By the use of water-saving irrigation techniques, water can be saved, and return flows can be released by either by-passing a portion of the headgate diversions or releases from upstream storage. Bubblers, sprinklers and drip irrigation substitutes for flood or row irrigation appear to be practical in the \$3,000.00/acre range, a bargain at Colorado Front Range water prices. In addition, improved irrigation deliveries through the use of neutron probes shows promise.

B. Reference Sources.

1. The Imperial Irrigation District - Metropolitan Water District Plan, Water Conservation in California Bulletin 198-84, July, 1984, pp. 82, et seq.
2. The Thornton Plan. Rocky Mountain News, April 11, 1986.

3. Status Report, Colorado River Water Quality Improvement Program, U.S. Department of Interior, Bureau of Reclamation, January, 1983. Salinity Update, Colorado River Water Quality Office, Bureau of Reclamation, February, 1986.

#### IV. THE INSURANCE PLAN

- A. A city could determine the value of a farmer's water rights based on a use by the city in time of drought. For example, if past records indicated that a city needed additional supplies on an average of once every ten years, and the farmer's water rights would yield water worth \$100,000 in any one year, the city would lease the farmer's water and would pay him an annual rental of \$10,000 a year which would be new income for the farmer. For 9 years out of the ten, the farmer would operate as he always had. The tenth year, when the city looked at its reservoir storage on January 1 and found it to be distressingly low, the city would notify the farmer that the city was going to store the farmer's historic consumptive use the next season. The farmer would then have a number of options: he could grow a crop, like wheat, which might make a crop without irrigation, he could look for a job in town for a year, or he

could loaf and live on his \$10,000 insurance proceeds. Such a plan would require no new physical facilities. Appropriate adjustments could be made if the city needed the water more frequently than once/a-year every ten years. This reasoning could be applied, for example, to units of water developed by the Northern Colorado Water Conservancy District through the Colorado-Big Thompson Project facilities ("Big T Units"). Big T water at the present time, can be used only within the boundaries of the District. If this limitation were removed, Big T water could be used, through exchanges and contractual agreements, anywhere from Julesburg to Lamar or Laveta, Palisade or Paonia. All without moving a shovelful of dirt.

If the farmer had non-tributary ground water under his land, that could be added to the available assets and the insurance premium could be increased appropriately. Current legislation and the regulations adopted under it makes non-tributary ground water particularly attractive for this purpose; if non-tributary ground water is not pumped for four years, five times the annual allotment can be pumped the fifth year. In addition, the insurance program gives value to non-tributary ground water which, generally, is too expensive to use for irrigation purposes.

- B. References for the insurance plan: S.B. 5, 1985 Colorado S. L. 1160, and the Statewide Rules adopted under S.B. 5, Rule 8A, p. 8.

V. IS NEW LEGISLATION REQUIRED?

- A. In many states, the stratagems we have outlined can be accomplished with little or no new legislation. Other states will require specific authorizing legislation. However, the win/win situation which results from keeping the farmer in business while making new water available for cities and industry without adverse environmental consequences should facilitate the adoption of such legislation.
- B. References for new legislation. In Colorado, Sec. 37-92-103(9) quoted above is an example of the kind of legislation that may need clarification.

VII. CONCLUSION

- A. The removal of agricultural land from production has serious adverse social and economic consequences. Any new approach which allows the farmer to continue to farm, but which makes additional water available to cities and to industry, without injury to existing water rights and without

adverse environmental consequences, should be encouraged. This is time for bold and imaginative thinking, and the old tried-and-true methods may not be adequate for demands of the nineties and beyond.