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**PROCEEDINGS OF THE SYMPOSIUM ON
WATER POLICIES ON U.S. IRRIGATED AGRICULTURE:
ARE INCREASED ACREAGES NEEDED
TO MEET DOMESTIC OR
WORLD NEEDS?**

compiled by
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FEDERAL WATER RESOURCE INVESTMENTS

By Carl H. Bronn^{a/}

INTRODUCTION

This paper deals with three items pertinent to the Report of the National Water Commission, specifically:

- 1..Federal water resource investments, as regards effects through agriculture;
- 2..Identification of benefits and beneficiaries;
- 3..The National interest.

These three items are important to philosophies of the NWC Report which reduce its usefulness to govern- [1]ments. Moreover, I suggest that Items 2 and 3 are determinants of Federal financial participation.

Discussion will cover:

(1)..The interests of government in Federal water investments which utilize agriculture as a device to secure non-agricultural results.

(2)..A "process" of appraisal for governmental interests different from the market-place, economic-

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efficiency theme applied by the National Water Commission [2]

AIMS OF GOVERNMENT

As to my own theme, it is that governmental investments are aimed more at the adjustment of results from the market-place, and less at NWC's definition of "economic efficiency". Governmental economic aims include, some authorities contend -- "to maintain full employment, stable employment, growth in production, widely-shared distribution, a relatively stable price level, and the environment of political and economic freedom".

Aims of that sort, aided by agriculture as fostered by Federal water development, will be examined in the realities of a case.

But, first consider the National interest in agriculture:

AGRICULTURE AND THE GENERAL WELFARE

Whatever aids agriculture aids all people of the United States. The point is not that all people eat, but that secondary effects are important to the Nation because agriculture is our largest business and also our Number One [3] export.

And for Number One, reliability is a key factor. Reliability is especially vulnerable in agriculture because food substitutes are largely exchanges within the industry (like the substitution of chicken, cheese, peanuts, or soy

for meat). Thus flood, drouth, or other natural adversities may reduce a gamut of options. [4]

Also, reliability means much where overseas customers reduce their own agricultural capabilities in favor of trade with the United States. Japan is an example. Against a great rise in agricultural consumption, [5] Japan has reduced substantially her ability to feed her people.

Now to a case illustrating the --

AGRICULTURAL EFFECTS FROM WATER RESOURCE INVESTMENTS

When the Mississippi River and its tributaries flooded in the Spring of 1973, an assessment showed damages pre-vented by river improvements to be about \$14 billions.

Stated in agricultural units, for three of a large variety of crops, the savings included: [6]

...Soybeans	---	210 million bushels;
...Cotton	---	2.4 million bales;
...Wheat	---	144 million bushes.

But what do those cold facts convey?

A direct effect is the avoidance of billions of dollars of tax write-offs; that is money in the pocket of every taxpayer.

But overshadowing that dollar effect are governmental economic benefits of different types. For instance, apply the "with and without" test to soybeans:

(1)..With flood works:

the soybeans saved equaled half our exports last year. Savings helped pay for \$billions of Japanese goods used by Americans and [7] also avoided further degradation of our status as a dependable source of soybeans, a high protein item of growing world-wide importance.

(2)..Without the flood control works:

a.. How much more would people across the Nation have paid for lesser amounts of food?

b..What would have been the impacts overseas upon confidence in our reliability as producer of food, feed, and fiber? . . . One measure is that, even with flood damage reduction on the Mississippi and elsewhere last year, we came perilously close to forcing Japan to re-orient trade relationships with the [8] United States!

. . . Significant is that our largest export at present may also be our prime hope of the future to secure minerals suited to our industries!

The case illustrates, for just three of many agricultural commodities, the pervasive flow of benefits from water resource investments.

Another type of investment which uses agriculture as a device is Reclamation. Reclamation is interesting because reports claim that it depresses farm prices and also disemploys farmers outside the West.

Compare the National impacts of the Reclamation works with the effects of one flood reduced:

..the soybeans saved had a market value at peak price of almost \$2 billion dollars, practically [9] equal to the gross value of all Reclamation crops the previous year!

..cotton saved was twice the Reclamation crop in 1972.

..wheat saved was three times the Reclamation crop in 1973.

The comparison is offered for its interest, considering that flood control is not assessed as depressing farm prices, but Reclamation is.

Certainly, the combined effects of flood damages reduced - directly for production and indirectly on distribution - and subsidized irrigation provided more food than otherwise in 1973; obviously, the food market was less chaotic than otherwise, a plus for the National interests.

But market effects may not be the prime indicator of National interests. For example, other National interests aided by subsidized agricultural production are:

- ..economic stability;
- ..less dissatisfaction than otherwise with the supplies available;
- ..better nutrition, with secondary benefits of a more productive people and lower medical costs;
- ..a capability allegedly used for political entree in negotiations for our international aims.

And as to aims of other Nations, one should examine the purposes of subsidizing agriculture by the European Economic Community. [10]

SUMMATION

The preceding, about agricultural effects through water investments says:

DISPLAYING THE FACTS IN REGARD TO GOVERNMENTAL INTERESTS AND THE SUBSIDIZATION OF AGRICULTURE WILL SHOW SUBSTANTIVE VALUES NOT EVIDENT IN THE MARKET PLACE. SUCH "NON-MARKET PLACE" VALUES ARE THE VERY PROVINCE OF GOVERNMENTS.

ITEM TWO -- Benefits and Beneficiaries

THEME

"..benefits have meaning only with regard to objectives." This quotation is from Dr. Arthur Maas, to Senator Proxmire several years ago, about "economic" evaluation of Federal programs.

Objectives of the United States government are broad; the proof lies in about 400 Federal programs. Objectives of those programs aided through water investments are licit objectives of water projects. Therefore, contributions would be benefits in which the Congress is interested.

Several such benefits, and their national scope, were illustrated in the preceding. Additional benefits (and some offsets) would be evident by relating all substantial effects of Federal water resource investments to the gamut of national objectives.

But rationalizing the objectives of 400 Federal programs is too much for a water planner. Therefore, Congress ordered, through the Clean Water Act of 1972, a study of national policies and goals and their relationship to resources. Pending that Report, and other factors to be cited later, local governments face two problems:

- (1) to identify national objectives;
- (2) to appraise the effects of water and related land resource options against Federal objectives.

NWC met the problem with a theme that resources should flow for the highest profit, determined by a free market. Result: NWC recommended legislation to require "full repayment of costs of Federal water resource development projects that result in increases in production of food and fiber", in accordance with a set of guidelines which include:

"..Only by placing development of water projects that yield economic returns on self-supporting basis can equity be promoted."

But -- do governments apply that market test, with its corollary of self-support, to fix Federal investments

for objectives like: population balance; employment; economic stability; international trading stock, and other effects mentioned hereinbefore?

Look at a major case: the \$30 billion program, a couple of years ago, for accelerated depreciation of productive investments. The target of that program [which costs more than all completed projects of the Corps of Engineers and the Bureau of Reclamation] was to gain unquantified "secondary" benefits for three objectives shared with water investments. There were no guidelines for: willingness to pay; discounting of the future; B/C ratio; nor repayment contracts with beneficiaries "on a self-supporting basis"!

For perspective on the NWC proposals as quoted, one could determine the percentage of the Federal budget (total, and investment sections) which Congress now allocates on that basis.

INTERDEPENDENCE

To bring water investments into the evaluation processes used for other governmental interests, NWRA proposed to the Interior and Insular Affairs Committees of the [11] Congress [in February, 1969] that there be:

..an examination of the interdependence of water resource projects and other Federal programs, and--

..where there is interdependence, the goals be made mutual, and--

..benefits be evaluated similarly.

The idea was received favorably by members of both the Senate and the House IIA Committees. Prospective actions stopped when the Water Resources Council announced plans for a "multi-objective system" of planning.

But -- can a "multi-objective system" of planning respond to investment aims of government by testing benefits on the proving ground of business -- the market place?

MARKET-PLACE RESULTS

Try this case: The market place made an unmanageable hodge-podge of flood control on the Mississippi. Toward order, Federal government moved in, by request. The Nation gained the benefits discussed earlier. To those benefits, add this for biological concepts:

.,Lacking that government water investment, authorized without a B/C ratio, the Mississippi River would pour into the Gulf through the Atchafalaya basin; such a reversion to "natural integrity" surely [12] would be catastrophic, by biological standards. But the market place would have let nature cause that National catastrophe.

THE MARKET -- AND EFFICIENCY

The natural tendency of rivers to meander across

their plains, to raise the levels of their beds above nearby lands, and then to seek new channels in massive floods is a threat to productive enterprise. The threat is major because civilization develops its logistic mass through the use of flood plains. And experience shows, in my view, that the market place is not - of itself - effective in safeguarding the necessary uses of flood plains.

Ineffectiveness of the market place is recognized by NWC in proposing that Federal water development be tied to national Land Use and Clean Water policies. Philosophically, this marries NWC's policy "to eliminate subsidies in irrigation, drainage, and agricultural flood control projects" to:

- ..Federal Clean Water funding for correction of failures of the market place. And,
- ..National Land Use policies to constrain private landholders from achieving economic efficiency as defined by the National Water Commission.

Such a marriage leads to the suggestion that national interests, and concepts about beneficiaries and willingness to pay, as applied in Clean Water and Land Use Policies need be considered in reformulating Water Resource Investment policies.

RECLAMATION REFORMULATION

The latest Omnibus Act for Reclamation investments was justified in support of National objectives like:

- ..slowing emigration from rural areas;
- ..enlarging job opportunities;
- ..stabilizing economies;
- ..enhancing wildlife.

For those aims, the principal means offered the Congress in the Reclamation bill was irrigated agriculture.

RECLAMATION BENEFICIARIES

To instrument the means, farmers would have to risk their time, their land, and their ancillary investments, i.e. take risks for themselves, and also in aid of objectives shared with other Federal programs. The question "Who benefits?" was answered generally by the case in the earlier part of this paper, and specifically by the Federal government in the Omnibus bill, itself.

However, NWC picks the farmer, the prime non-Federal risk taker in Reclamation, as the prime beneficiary. NWC does this even though projects are justified to support National objectives, as stated. This issue of Federal financial support is unresolved, and will be considered as Reclamation principles are reformulated. So let us look at--

RISK SHARING

The project farmer, I say again, is a means to aid the Federal aims. He is a primary taker of risks -- time,

land and loans. Those risks should be considered in fixing his share of project costs. If the remaining project costs are not worth their aid to the national objectives cited, the Congress -- nobody else -- would decide not to do the work.

THE DECISION-MAKER

I say "nobody else" but Congress should decide. Why [13] so? Because such decisions -- broad economic, social and political -- can be made most effectively in that environment which establishes and funds the 400 or so programs for National objectives. This precept does not exclude the development by the Administration and the Congress of governmental criteria for reporting the relative merit of proposals.

SUMMATION

The cases cited about Reclamation and the Mississippi River show the complex nature of governmental purposes. They show also how water resource investments support governmental purposes, or objectives, complex as they are.

The discussions show, I believe, that a recommended governmental action to eliminate subsidy in irrigation, drainage, and agricultural flood control projects may not be adequate policy for governmental interests.

Of course, the issue of adequate policy has long been around, and even now is debated in a conference committee

of the Congress. Let me lay out, for thinking, a process to develop policy. In this, please use the references for insights into certain of the proposals.

A Process for Assessing the National
Interest in Water Resource Investments

BACKGROUND:

To harmonize our backgrounds about the state of resources, let us recall that:

(1)..The Secretary of the Interior has proposed an integration of high-level water resource planning of the Bureau, the SCS, the Corps and the Water Resources Council.

(2)..Section 209 of Public Law 92-500 authorizes \$200 million for Level B Water Resource studies.

(3)..National objectives are to be clarified through the study on goals and resources under Section 10 of Public Law 92-500, the Water Pollution Control Act amendments of 1972.

(4)..The practicability of goals in the Clean Water Act is being examined by the National Study Commission. Presumably, the nature of Federal benefits will be made clearer.

(5)..Still more about National benefits and governmental interests should develop through:

a..The National Environmental Policy Act, as administrators and the courts shape it.

b..Specific land use legislation, plus National Land Use policies already authorized under

various guises.

c..Energy programs and policies.

d..An official realization that enlarging dependence upon oversea minerals means a further look at agriculture as a natural resource, i.e. --

e..Recognition that the U.S. has superior assets of soil, water, topography, and climate to create exchange for imports.

FINDING:

The foregoing help to define the interests of governments, and to suggest actions in support thereof. I argue that Federal policies to invest in water and related land resources should be formulated in consideration of such interests and actions.

Consideration of that complex array - consideration with the purpose of directing a flow of Federal investments - requires an entity charged with that function.

This could be an Investment Board, responsible to a Departmental Secretary.

An Investment Board would:

1..Provide Congress with an annual review of the harmonies and the conflicts of present governmental policies affecting water and land, and deficiencies thereof, considering present and emerging National interests. Those relationships would take into

account:

- (a) land use [private and public];
- (b) non-renewable resources;
- (c) renewable resources;
- (d) balance of payments;
- (e) balance in population distribution;
- (f) regional development;
- (g) environmental quality;
- (h) economic viability.

2..For each water investment sought by a State, unify the project report and the environmental impact statement. In this, significant results would be laid out, in 5-year time frames, as expected to accrue. [14]

3..Recommend 5-year funding programs for Federal water resource investments; aim -- to enhance the utility of water in support of National objectives.

This "homogenizing" Board is suggested to stimulate thinking, not as a best solution. Surely, your aid to State governments in thinking about the capabilities of water resources to aid regional and national aims could cause them to devise something better to offer the Congress. And the Congress - in current action - is asking for advice.

Summary

Agricultural benefits from Federal flood control and irrigation investments impact favorably on priority National aims, as cited. The Nation therefore is a beneficiary, and should share investment costs. This is not possible if project

criteria concentrate on diverting resources for large profits.

Conclusion:

State governments jointly should:

- .. consider the interdependence of water resource investments with other governmental actions.
- .. devise legislation to guide such investments to support governmental aims.
- .. offer a legislative proposal to Congress.

National Water Resources Association
February 28, 1974

AMPLIFICATION AND REFERENCES
[Addendum to AAAS paper]

[1] Some governmental views:

- a.."The NWC failed completely to understand the dynamic nature of our economic order" and .."during the 72-year history of Reclamation, it has never had to depend upon the production of commodities for primary justification of its existence".
 - ..by the Chairman of the House Subcommittee on Water and Power Resources, About Sept. 24, 1973.
- b.."I have been conducting a series of hearings on the report of the National Water Commission. The hearings thus far have raised alarming issues".
 - ..by the Chairman of the Water and Power Resources Subcommittee, U. S. Senate, about Sept. 25, 1973.
- c..Views of State governments such as: "over-emphasis on economic efficiency", "failure to recognize governmental interest in economic stabilization", and "failure to incorporate a

statement of goals in specific terms negates the value of the report", are available in record of NWC's public hearing on Feb. 8 and 9, 1973.

- [2] In "New Directions in U.S. Water Policy", the NWC reports as one of its "Seven Recurring Themes" and otherwise:
- a..demand for services to be provided . . should ordinarily be determined by .. measuring the consumer's willingness to pay its full costs.
 - b..resources bid . . into the production of goods and services in greater demand .. to return large profits .. is what is meant by economic efficiency.
- [3] a.."Agriculture is still America's largest industry. It employs more people and contributes more of our export earnings than any other single industry."
..U.S. Senator Pete V. Domenici [Rep.-New Mexico];
[See Congressional Record, S. 20851] on November 20, 1973.
- b..Agricultural exports for year to June 30, 1974, are estimated at \$19 billions..for the first 10 months of CY 1973, agricultural exports offset a non-farm trade deficit of \$6.6 billions!
.. [David L. Hume, Administrator, Foreign Agricultural Service, 12/19/73 to Senate Ag. Committee]
- [4] Persons seeking substitutes for beef may shift to pork, poultry, or fruits and vegetables -- a shift within the agricultural industry. In contrast, shortages of aluminum containers might shift consumption to other metals, glass, or perhaps plastics.
- [5] In Japan, even as farm production declined because of trade with the United States, nutrition has been improving. Thus, while life expectancies are 25 years longer than forty years ago, wheat production has declined in ten years from 1-1/2 million tons to 0.44 million, and barley from 1.2 millions to 0.34 millions!
.. [Mr. Saburo Okita to FAO; see Cong. Record, 12/17/73; page S. 23068.]
- [6] From blue pamphlet "Performance of Mississippi River Flood Control System in 1973"; U.S. Army Corps of Engineers, estimates of May 9, 1973. The President of the Mississippi River Commission reported on December 8, 1973, that damages prevented were almost

double the May estimate.

..[Speech to Lower Mississippi Valley Flood Control Association; New Orleans, Louisiana]

- [7] Even with the temporary embargo and tight domestic markets during the agricultural year ending June 30, 1974, ag. exports to Japan are forecast to reach \$3 billions -- the largest to any Nation.
..[Sen. Comm. Print, Ag. Comm., 12/19/73, page 44]
- [8] "Now, after experiencing a worldwide food shortage, many people have started arguing for higher self-sufficiency in food supply", says Mr. Okita (see Reference [2]).
- [9] This is a deliberate underestimation. The \$9 plus I used was a "sort of" peak; the maximum price in June, 1973, as the Mississippi River flood subsided -- was more than \$12.00.
- [10] Example: In my visits on the sites of water investments by overseas governments, I have been told:
..the French subsidize irrigation in the Rhone valley for social goals;
..the Germans subsidize river development eastward for political goals;
..the Netherlanders subsidize land reclamation in support of national interests; short-range profits at private money rates are neither sought nor achieved.
- I have not been told why the Soviet Union invests in agriculture at four times the U.S. rate [Cong. Record, Dec. 11, 1973, H. 11056].
- [11] See Committee Print; February 26, 1969, 91st Cong; IIA Committee; Meeting with Board of Directors of National Reclamation Association.
- [12] Centuries ago, the Mississippi River reached the Gulf by a much shorter route far to the west of its present channel. In this century, after each major flood, a larger diversion of the Mississippi returned to the old channel -- the Atchafalaya. Flood control works of the Corps were built to prevent return of the main Mississippi River to a location more than one hundred miles from its present outlet.
- [13] ..I would insist -- as would anyone who understands our form of government -- that economic analysis can never be the sole determinant of budget decisions.

..I would insist with equal vigor that economic analysis cannot and must not be the sole, or even in some cases a primary determinant of national policy.

...Moreover -- and here I speak as an economist -- economists per se have no special competence to make the political policy decisions inherent in establishing national priorities and policies.

..[Advised Robert P. Mayo, the Director of the Budget, to the Subcommittee on Economy in Government, September 25, 1969.]

[14] Although a higher interest rate implies more efficient allocation of resources between the public and private sectors, the actual evaluation of projects is equally dependent upon the estimates of undiscounted benefits and costs.

..[Stated Elmer B. Staats, Comptroller General, to the Subcommittee on Economy in Government; September 25, 1969.]