The National Flood Insurance Program—Problems and Potential

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ABSTRACT

The National Flood Insurance Act of 1968 was designed to provide subsidized flood insurance and to reduce long-term flood damage through the use of land use and control measures. The floods of 1972 and 1973 provided early tests of the program, and it appears to have been deficient in many respects. The author examines these deficiencies and offers reasons for their existence. Various ameliorative actions that were taken and others that have been proposed to improve the program are analyzed. Finally, the lessons learned from this study are used to postulate guidelines for improving existing and future government-industry property insurance programs.

Providing flood insurance on fixed-location properties has presented perpetual problems for the private insurance industry. Various studies[1] have led the industry to conclude that, "insurance against the peril of flood cannot successfully be written."[2] The principal reasons which have been put forth are the virtual certainty of loss in areas subject to recurrent floods, its catastrophic nature, the reluctance or inability of the public to pay the premium charge required to make the insurance self-sustaining, and adverse selection.[3]

It has always been felt that since flood damage is confined to relatively concentrated areas, only a limited number of individuals would demand flood insurance and hence create considerable adverse selection. The frequent occurrence of floods in certain areas and their devastating effects result in losses of a catastrophic nature. Spreading these losses over a small number of property owners results in a prohibitively high premium for each individual.[4]

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[1] See Parsons, Brinckerhoff, Hall, and MacDonald, *Report on Floods and Flood Damage*, Prepared for Insurance Executive Association (New York: Parsons, Brinckerhoff, Hall, and MacDonald, April, 1952) and American Insurance Association, *Studies of Floods and Flood Damage, 1952-1955* (New York: American Insurance Association, May, 1956).

[2] American Insurance Association, *Studies of Floods and Flood Damage, 1952-1955* (New York: American Insurance Association, May, 1956), p. 3.

[3] *Ibid.*, pp. 5-6.

[4] It should be noted that the above refers only to the feasibility of flood insurance

The principal dilemma of flood insurance on fixed-location properties is that the need for such insurance is great, even though it may not be feasible through the traditional private channels. Floods take an average of 80 lives and cause about $1 billion in property damage annually.[5] The United States has a history of becoming excited about flood damage after the flood has occurred. Substantial insurance industry studies were conducted following the floods of 1951 and 1955.[6] The terrible devastation wrought by Hurricane Betsy in 1965 was the final impetus for a major HUD study.[7] Hurricane Camille was a prime motivating factor in the 1969 amendment to the National Flood Insurance Act that created the emergency program. The floods of 1972 and 1973 resulted in further changes to correct past inadequacies in the National Flood Insurance Program.

A pattern has developed which first requires massive flood damage in order to recognize a need for insurance and then develops a program to meet this need by trial and error. While this process may work well in impersonal laboratory experiments, it has a devastating effect when people are involved. Hopefully certain lessons will be learned from this study so that programs deemed necessary may be developed more effectively, thereby reducing the plight of the people these programs are designed to help.

The purpose of this paper is to evaluate the National Flood Insurance Program from its inception to the present. Given the various studies that were enacted prior to the program's creation in 1968, one might think that most of the problems would have been contemplated beforehand. Preliminary evidence indicates that this has not been the case. The National Flood Insurance Program has encountered numerous problems since its inception. Ironically, the devastating floods of 1972 and 1973 provided early tests of the program, and it appears to have been deficient in many respects.

Where did the program develop deficiencies? What were the reasons for these deficiencies? What improvements have been made? What changes still need to be made? These and other questions will be examined. Lessons from the Federal Flood Insurance Program will be used to postulate guide-

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for fixed-location properties. Insurance for losses due to the peril of flood is available in automobile comprehensive coverage, mobile home insurance, personal property floaters, and inland marine and ocean marine insurance. The characteristics of these coverages is that the insured properties are moveable, i.e., they are not fixed-location properties. This mobility is crucial since it allows the insured property to move in and out of areas subject to recurrent floods, hence reducing the probability of loss and the prohibitively high premiums, while at the same time decreasing adverse selection. Coverage is available for fixed-location properties through Difference in Conditions coverage. This type of insurance is tailor written for large exposures and normally involves a considerable deductible. It is unavailable and impractical for the small business and residential risk, to which the above discussion is focused.

[5] General Adjustment Bureau, *Nature's Destructive Forces* (New York: General Adjustment Bureau, 1972), p. 42.

[6] See Footnote 1.

[7] United States Senate Committee on Banking and Currency, 89th Congress, *Insurance and Other Programs for Financial Assistance to Flood Victims* (Washington, D. C.: United States Government Printing Office, 1966).

lines for existing and future government-industry property insurance programs.

Early Efforts

Early efforts to formulate a viable flood insurance program had the common denominator that the plan must combine the efforts of the government and private industry. The 1956 Senate Banking and Currency Committee Report[8] which led to the enactment of the Federal Flood Insurance Act of 1956, was one of the first formal statements representing this viewpoint. This Act called for the creation of a Flood Insurance Administrator who would have the authority to issue direct flood insurance and reinsurance to residential and commercial properties.

The plan called for a premium subsidy in order to "provide insurance protection at reasonable costs to achieve marketability." [9] This subsidized rate was to be no less than 60 percent of the actuarially determined rate (this amounts to a 40 percent subsidy). Although many of the provisions resembled those which were eventually enacted in the National Flood Insurance Act of 1968, apparently the time was not right in 1956, as Congress did not appropriate necessary funds and the law was never implemented.

The private insurance industry had traditionally opposed any type of mandatory alliance with the government to provide flood insurance. Whether it was an increased awareness of the problems of flood victims or the acceptance of an inevitable trend, the National Industry Flood Insurance Committee appointed a Package Flood Insurance Technical Subcommittee to find a possible means of providing flood and broad water damage insurance for one-to-four family dwellings. The Subcommittee's report[10] represented a change in the industry's position; it recommended a flood insurance plan that included establishment of an industry pool and federal assistance in the form of a congressionally appropriated fund that would be used to pay losses during the early years of operation.[11]

The last major study before enactment of the National Flood Insurance Act of 1968 was conducted by the Department of Housing and Urban Development, under the direction of Dr. Marion Clawson.[12] The study was completed and forwarded to the President and to the Congress in 1966. The

[8] United States Senate Committee on Banking and Currency, 84th Congress, *Federal Disaster Insurance* (Washington, D. C.: United States Government Printing Office, 1956).

[9] Housing and Home Financing Agency, *Summary of the Federal Flood Insurance Act of 1956* (Washington, D. C.: United States Government Printing Office, 1956).

[10] "Package Flood Insurance for Private Dwelling Buildings," *Proceedings of the National Association of Insurance Commissioners,* Vol. II (December, 1965), pp. 387-449.

[11] Robert S. Felton, William K. Ghee, and John E. Stinton, "A Mid-1970 Report on the National Flood Insurance Program," *The Journal of Risk and Insurance,* Vol. XXXVIII, 1 (March, 1971), p. 2.

[12] See Footnote 7.

recommendations of Clawson's study were closely followed in the 1968 legislation.

National Flood Insurance Act

On the surface, the National Flood Insurance Act of 1968[13] appeared to put forth a strong program for alleviating property damage due to the peril of flood. It required community development of land use and control measures to reduce and prevent losses due to flood. It provided for federal subsidies in order to make the coverage "affordable" to property owners in flood prone areas. It established the Federal Insurance Administration (FIA), in the Department of Housing and Urban Development, whose director is responsible for the operation of the program. It elicited the support of the private insurance industry through the National Flood Insurers Association (NFIA), a voluntary association of property insurance companies. The NFIA is responsible for the dissemination of information to the public, the distribution, sale and processing of all policies, and the adjustment of all claims.

The original provisions and conditions of the 1968 act appeared to make the best use of the federal government, the private industry, and loss control techniques. In the short run, property owners would be able to obtain insurance for losses due to flood. In the long run, local and state programs of flood plain management, built primarily on the adoption of land use and control measures, should be able to significantly reduce overall flood losses. But what appeared to be strong on paper proved to be weak in actual implementation.

Early Problems

By the end of 1969, only four communities had qualified for eligibility to receive Federal flood insurance. Considering there are an estimated 7,000 flood prone communities in the nation, this does not exactly qualify as a fast start. This dismal beginning would probably have received little attention except for the fact that Hurricane Camille caused considerable flood damage in August 1969. Naturally it was expected that at least some of these losses would be covered because flood insurance was now available. Needless to say, many individuals, a number of them politicians, were disturbed when it was discovered that coverage was virtually unavailable in the areas affected by Camille (Metaire, Louisiana was the only eligible community so affected). The annoyance with the slow development of the flood program prompted Congress to amend the program in December of 1969. This amendment, often referred to as the St. Germain amendment, created the emergency program which will be discussed below.

The Emergency Program

The principle reason for Congress passing the 1969 amendment that

[13] Title XIII of the Housing and Urban Development Act of 1968 (Public Law 90-448), approved August 1, 1968.

created the emergency program[14] was to change those provisions in the regular program that were hindering its development. Changes were concentrated in areas that were impeding community efforts to become eligible. The most obvious bottleneck was the requirement that actuarial rates be determined before an area could qualify for insurance. Since these studies usually took from nine to twelve months to complete, a large backlog of communities was awaiting their results. Under the emergency program, the requirements for the determination of actuarial premium rates was waived until December 31, 1971.[15] In most cases this reduced to three weeks the time between receipt of a completed application by the Federal Insurance Administration and the availability of insurance.

Waiving the actuarial rate requirement did not eliminate all the difficulties for a community attempting to gain eligibility. Communities must still

> indicate evidence of their desire to participate in the program; cite the jurisdiction's legal authority to regulate land use; summarize measures already in effect which are designed to reduce property from flooding; provide copies of maps showing the areas in the community prone to flooding; if available, furnish copies of any official reports on the community's flooding problems; and take legislative action formally committing itself to enact by December 31, 1971, and to maintain in force for areas having special flood hazards, adequate land use and control measures[16] designed to reduce exposure to the hazards.[17]

Local governments must also show evidence that decisions concerning the location, design, and construction of new structures will take known flood hazards into account. Resistance from the home building and related industries is often strong, as such action effectively prohibits new construction in special flood hazard areas.

The author is not suggesting that compliance with the above eligibility requirements be waived or even compromised. These requirements are necessary for a long term program to minimize flood losses. Yet it should be realized that these requirements are, in effect, impediments to communities gaining eligibility. Since the emergency program had virtually no effect[18] on these requirements, it should not have been expected that all or even most flood-prone communities would suddenly gain eligibility due to the provisions of the emergency program. This realization did not become readily apparent until the floods of 1972.

Congress, in instituting the emergency program, made other changes that

[14] Title XIII of the Housing and Urban Development Act of 1969 (Public Law 91-152), approved December 24, 1969.

[15] Subsequent amendments have extended this deadline until December 31, 1973.

[16] These measures must be consistent with standards set forth in the criteria published by the Federal Insurance Administration in the Federal Register (24 C.F.R. 1910, Subpart A).

[17] Department of Housing and Urban Development, "The National Flood Insurance Program—Questions and Answers," *HUD News*, August 28, 1970, p. 2.

[18] The December 1969 Amendment which created the emergency program did move the date for enactment of local ordinances from June 30, 1970 to December 31, 1971 and substituted "adequate land use and control measures" for "permanent land use and control measures."

were not directly related to the problems of communities obtaining eligibility. The definition of flood was expanded to include mudslide. Small business property[19] became eligible for insurance. The original 80 percent coinsurance requirement was eliminated. The minimum deductible was raised from $100 to $200. The principal effect of these additional revisions was to expand the scope of the program.

Results of the Emergency Program

The emergency program did accomplish its main purpose, namely to increase the rate of participation in the flood insurance program. In the first six months following the St. Germain amendment, the number of eligible communities increased from four to 158. By June 30, 1970, over 5,500 policies had been issued, with insurance in force totaling $89,000,000. The growth of the program in subsequent months was even larger. The growth rates are depicted in Tables 1, 2, and 3, which illustrate the number of eligible communities, the total number of policies outstanding, and the total amount of insurance in force, respectively.

Given the benefit of hindsight, it is obvious that there were other serious shortcomings in the program which were not eliminated by the emergency provisions.

TABLE 1

NATIONAL FLOOD INSURANCE PROGRAM
NUMBER OF ELIGIBLE COMMUNITIES

Date	*Number*
December 31, 1969	4
June 30, 1970	158
June 30, 1971	637
May 31, 1972	1,125
June 30, 1972	1,174
March 31, 1973	1,852
May 31, 1973	2,200

Source: Federal Insurance Administration

TABLE 2

NATIONAL FLOOD INSURANCE PROGRAM
NUMBER OF OUTSTANDING POLICIES

Date	*Number*
December 31, 1969	16
June 30, 1970	5,500
June 30, 1971	75,894
May 31, 1972	92,590
June 30, 1972	95,123
March 31, 1973	169,208
May 31, 1973	239,119

Source: Federal Insurance Administration

[19] A small business concern is defined as one which, together with its affiliates, does not have assets in excess of $5 million, does not have net worth in excess of $2.5 million, and does not have an average net income per year after Federal income taxes for the preceding two fiscal years in excess of $250,000.

TABLE 3

NATIONAL FLOOD INSURANCE PROGRAM
TOTAL INSURANCE IN FORCE

Date	*Amount* (in millions of $)
December 31, 1969	$ —
June 30, 1970	89
June 30, 1971	1,195
May 31, 1972	1,485
June 30, 1972	1,535
March 31, 1973	2,923
May 31, 1973	4,063

Source: Federal Insurance Administration

The Floods of 1972

June 1972 was marked by the worst floods in the nation's history. The most damage was caused by the torrential rains and subsequent floods that were spurred by Hurricane Agnes. Agnes moved up the Atlantic coast bringing winds and rains to the coastal states, but she saved her greatest damage for the inland state of Pennsylvania. The flooding caused by Agnes brought tremendous damage and destruction to Wilkes-Barre, Harrisburg, and other Pennsylvanian cities. Estimates of property damage in Pennsylvania alone were consistently placed above the $1 billion mark. Overall property damage estimates from Agnes make her the first $3 billion hurricane, more than double the property damage caused by Betsy in 1965.

Earlier in the month of June 1972, but unrelated to Agnes, ten inches of rain fell on Rapid City, South Dakota in less than 24 hours. The resulting flash floods, coupled with the breaking of Canyon Lake Dam, unleased floods that inundated the city. Over 200 people died, 500 were unaccounted for, and property damage was estimated to exceed $100 million.[20]

Lack of Flood Insurance

The floods of June 1972 provided a grim test for the National Flood Insurance Program. The program had been enacted into law nearly four years prior. The first policy had been written three years earlier. It could reasonably be expected that, if the flood insurance program was working effectively, and property owners were purchasing the coverage, a significant portion of the damages caused by Agnes and the Rapid City floods would be covered. These expectations were to be shattered when the floods began to recede and the adjustments of claims began.

In Wilkes-Barre, probably the hardest hit community in Pennsylvania, only two flood insurance policies were in force. In Harrisburg, another hard hit city, no policies were in force. In all of Pennsylvania, the state which received the brunt of Agnes' rains, only 683 policies had been purchased. The estimated amount of claims which would have to be paid by the

[20] The statistics on the 1972 flood damages were obtained from the General Adjustment Bureau, the Federal Insurance Administration, and insurance industry sources.

Federal Insurance Administration due to Agnes' floods was put at slightly more than $5 million. When compared to an estimated total damage figure of over $3 billion, this amount is sorely lacking. In Rapid City the situation was no different, with only 29 policies in effect, even though the community had been eligible for flood insurance for over a year.[21]

Even though the flood insurance program had experienced considerable growth after the enactment of the emergency program, still on the eve of the 1972 floods (May 31, 1972), only 1,125 or about one-sixth of the 7,000 flood prone communities had become eligible for the program. Total insurance in force on the 92,590 outstanding policies in the entire United States was $1.48 billion, less than half of the total loss caused by Agnes (see Tables 1, 2 and 3). Finally, most of these policies were being written in coastal areas (for instance, Florida had 21,208 policies), which were largely unaffected by Agnes.

Reasons for Lack of Coverage

Why had so few people purchased flood insurance? Edward C. Brinley, head of Hartford's group catastrophe underwriting department, succinctly answered this question even before the 1972 floods.

> This program, which held so much promise at its inception, is threatened by lack of knowledge. Citizens are not aware of its existence, local officials are not seeking eligibility for their communities, and agents are not selling it.[22]

The floods of 1972 and Mr. Brinley's crisp reply point out that the existence of a National Flood Insurance Program does not guarantee that people will have insurance for flood damage. The program needs to be implemented properly and effectively. The points raised by Brinley and other possible reasons for the program's ineffectiveness should be more carefully examined.

Citizens Are Not Aware of the Program's Existence

Making a product available does not guarantee that the consumer will acquire the product, even if it is offered at an attractive price. People must be made aware of the product. Advertising, promotion, distribution and selling techniques must be employed to assure that the product moves smoothly and efficiently from the producer to the ultimate consumer. In the author's home state, Wisconsin, there is an outstanding example of this phenomenon.

The Wisconsin State Life Fund provides various types of life insurance policies for up to $10,000 to people who are in the state (applicants need not be residents of the state—only in Wisconsin at the time the insurance

[21] The statistics on the number of policies outstanding and estimated claims under the Federal flood insurance program were obtained from a number of sources and checked with FIA statistics for accuracy.

[22] Edward C. Brinley, "Flood Plan Threatened by Lack of Interest," *National Underwriter (Property-Liability Edition)*, May 12, 1972, p. 45.

is granted). Since it operates with neither agents nor an advertising budget, and holds administrative expenses to a bare minimum, the State Life Fund offers the lowest priced $10,000 life insurance policy in the state. Yet at the end of 1971 it represented only .285 percent of total ordinary life insurance in force in Wisconsin.[23] Although local life insurance agents often argue that low participation in the Fund is caused by lack of personal service, most observers agree that lack of awareness by the Wisconsin populace is the primary reason. Evidence of this fact is that current applications have tripled mainly due to a series of articles on the Fund which appeared in many local newspapers.

In an article which examined the first full year of the National Flood Insurance Program, the authors noted that:

> Apparently most companies neither encourage nor discourage the sale of flood insurance by their agents. Perhaps this is because the policy is issued in the name of the National Flood Insurers Association and carries only the name of the selling agent.[24]

This observation suggests that companies have been somewhat indifferent as to whether their agents inform their existing and potential policyholders about the availability of flood insurance. Thus even if a community has qualified for eligibility in the flood program, the failure of companies and local agents to promote the coverage can significantly impair participation in the program.

The Federal Insurance Administration apparently was not satisfied with the NFIA. In August of 1972, the FIA sent letters to every State insurance commissioner requesting that he require every licensed insurer in his State to formally advise each property insurance policyholder or applicant in eligible communities of the availability of flood insurance.[25]

Agents Are Not Selling the Program

George K. Berstein, the Federal Insurance Administrator, in testifying before a U.S. Senate Subcommittee following the 1972 floods, stated that:

> . . . . the failure to generate greater success can be largely attributed to the fact that insurance has to be sold aggressively at the local level by agents; news releases and urgings by public officials are not enough . . . Insurance has to be sold by agents and brokers pushing the insurance and convincing individuals that insurance is in their interest.[26]

His testimony illustrates his belief that the efforts of agents are an in-

[23] Office of the Commissioner of Insurance, *Wisconsin Insurance Report* (Madison, Wisconsin: Office of the Commissioner of Insurance, 1972).

[24] Felton, Ghee, and Stinton, p. 6.

[25] Department of Housing and Urban Development, "Berstein Lauds Administration's Flood Insurance Proposal," *HUD News*, September 27, 1972, p. 2.

[26] George K. Berstein, testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, *S.2794—A Bill to Amend the National Flood Insurance Act of 1968 to Increase Flood Insurance Coverage of Certain Properties, to Authorize the Acquisition of Certain Properties, and for other Purposes* (Washington, D.C.: U.S. Government Printing Office, 1972), p. 24.

dispensable link in marketing flood insurance. In later testimony, he suggested that one of the reasons for so few individuals having flood insurance "may well have been the failure of local agents to actively market flood insurance." [27]

In their study of the flood insurance program, Felton, Ghee, and Stinton noted that:

> Many agents simply accept the business that comes their way, perhaps because of the fifteen percent commission rate. Others advise their policyholders and the public of the availability of coverage and make every effort to fulfill their professional obligation to offer complete protection.[28]

Again this observation suggests less than 100 percent enthusiasm. While some agents appear to make every effort to inform their clientele, others display a certain apathy.

The authors also mentioned that in their interviews with agents, they received the impression that the commission schedule was somewhat low and might be adjusted upwards. In his testimony, Berstein noted that "apparently not enough agents have reached a conclusion that it (flood insurance) is a money maker." [29] In an effort to alleviate this problem, the Federal Insurance Administration took action, following the 1972 floods, to increase the commission scale. Although the commission rate remained unchanged at 15 percent, a minimum commission of $10 per policy was set. This meant that on a required minimum premium of $25, the agent would earn $10 rather than $3.75.

Local Officials Are Not Seeking Community Eligibility

Despite alterations, it still requires some effort by local officials to obtain eligibility for their respective communities, and they still may meet resistance from building, construction and other related groups. There is also the possibility that some officials are not even aware of the flood program and its desirable features. The floods of 1972 made it painfully apparent that additional incentives and assistance are needed in order to encourage further participation. In Pennsylvania, for instance, the state hardest hit by Hurricane Agnes, only one-sixth of the state's flood-prone communities had become eligible for the flood insurance program.[30]

Edward Brinley noted one form of assistance. Public information seminars were conducted by the New Jersey Association of Insurance Agents after Hurricane Doria struck in the summer of 1971. The result was that the number of New Jersey communities eligible for flood insurance doubled.[31]

Another form of assistance was suggested by New Jersey Insurance Com-

[27] *Ibid.*, p. 25.

[28] Felton, Ghee, and Stinton, p. 6.

[29] Berstein, p. 32.

[30] Richard S. Schweiker, testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, *S.2974.* (Washington, D.C.: U.S. Government Printing Office, 1972), p. 8.

[31] Brinley, p. 45.

missioner, Richard McDonough. In testifying before the same U.S. Senate Subcommittee on the subject of flood insurance, he stated that "New Jersey is willing to create a 'flood insurance assistance corps'"[32] on the state level to enable municipalities to become eligible for the National Flood Insurance Program. He explained that his recommendation for a state flood assistance corps would allow New Jersey agencies to do the work of the Army Corps of Engineers and conduct the necessary studies and enforce the land use code of flood control.[33]

In contrast to the proposals discussed above, other measures threatening stiff penalties have been offered to induce flood-prone communities into gaining eligibility into the program. In the fall of 1972, the Nixon Administration proposed amendments to the National Flood Insurance Act which would deny flood-prone communities (a) federal mortgage insurance or guarantees; (b) lending by federally insured or regulated financial institutions; and (c) other forms of government assistance for financing construction; if they failed to become eligible for the flood insurance program. Considering that the vast majority of the nation's banks and savings and loan associations are federally insured and regulated, the proposed penalty for failure to participate is a severe one.[34] It is interesting to note that when the Federal Flood Insurance Act of 1956 was under discussion, many groups were insistent then that the Federal government apply pressure to force flood-prone communities to seek eligibility. One wonders why such advice was not heeded in incorporating the 1968 act.

The Nixon Administration amendments also included proposals designed to expand the program. The major areas are:

(a) Raising to $10 billion, from $2.5 billion, the limit on the total amount of authorized coverage.
(b) Doubling to $35,000 the limit on subsidized insurance on single-family homes and to $10,000 on their contents.
(c) Raising to $100,000 the present $30,000 limit on subsidized coverage for non-residential structures.[35]

Loss of Federal Disaster Assistance Benefits

There is a provision in the National Flood Insurance Act which often makes communities reluctant to seek eligibility. This provision states that persons in flood-prone communities who could have purchased flood insurance for more than a year but did not do so would be denied disaster relief to the extent that they could have been protected by insurance (the provision is not applicable to low income persons). Thus a community,

[32] Richard McDonough, testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, *S.2794*. (Washington, D.C.: U.S. Government Printing Office, 1972), p. 63.

[33] *Ibid.*

[34] "Broader Federal Flood Insurance Proposed, With Severe Penalties for Non-Participants," *Wall Street Journal,* September 18, 1972, p. 8.

[35] *Ibid.*

which in the best interests of its members, obtains eligibility for flood insurance may cause some of its people to lose Federal disaster assistance benefits. Since the penalty only applies if a community becomes eligible for the program, there is naturally some reluctance among community leaders in making the decision to seek eligibility. Although the deadline for this provision to be effected has been extended to December 31, 1973, the long run nature of this problem still exists.

Premium Rates Too High

Although subsidized rates carry an average 90 percent subsidy, it was felt by many after the 1972 floods that flood insurance was still too expensive for the average property owner. The author would suggest that it was not too expensive in terms of the property owner being able to afford the coverage, but too expensive in terms of what he felt he was getting for the money expended. For example, an individual with a $10,000 house and $5,000 contents would pay $40 ($10,000 x $. 40/$100) for flood coverage on the house and $25 ($5,000 x $.50/$100) for coverage on the contents for a total of $65. In many instances this would be more than the premium for his entire homeowners insurance package, which includes property damage coverage for a wide number of perils, as well as liability insurance, medical payments, additional living expense, and other benefits.

In an effort to make the premium rates more attractive, the Federal Insurance Administration called for a reduction in the rates, which in some cases were as much as 40 percent. The new rates which became effective July 10, 1972, along with the old rates, are shown in Table 4.

People Do Not Buy Insurance Voluntarily

A point that was repeatedly brought out in the Senate Subcommittee hearings following the 1972 floods was that people do not buy insurance voluntarily. George Berstein stated:

> A similar problem, that few who have not had considerable insurance or insurance regulatory experience can fully appreciate, is that most property owners simply do not buy insurance voluntarily, regardless of the amount of equity they have at stake. It was not until banks and other lending institutions united in requiring fire insurance from their mortgagors that most people got around to purchasing it. It was also many years after its introduction that the now popular homeowners insurance caught on. At one time, too, insurers could not give away crime insurance, and we just need look at our automobile insurance laws to recognize that unless we force that insurance down the throats of the drivers, many, many thousands of people would be unprotected on the highways. People do not buy insurance voluntarily unless there is pressure on them from one source or another. With flood insurance, the problem is even greater, since an adequate spread of risk to make the coverage truly affordable does not exist and the resulting rates would inevitably be much higher than fire and extended coverage insurance rates if the insurance were sold privately at actuarially sound rates.[36]

[36] Berstein, p. 23.

TABLE 4

NATIONAL FLOOD INSURANCE PROGRAM
SUBSIDIZED PREMIUM RATES

Type of Structure	Value of Structure	Annual Rate per $ 100 Structure		Annual Rate per $ 100 Contents	
		Original	Revised*	Original	Revised*
(1) Single Family Residential	$ 17,000 and under	$0.40	$0.25	$0.50	$0.35
	17,501-35,000	.45	.30	.55	.40
	35,001 and over	.50	.35	.60	.45
(2) All Other Residential	$ 30,000 and under	$0.40	$0.25	$0.50	$0.35
	30,000-60,000	.45	.30	.55	.40
	60,001 and over	.50	.35	.60	.45
(3) All Non-Residential **	$ 30,000 and under	$0.50	$0.40	$1.00	$0.75
	30,001-60,000	.60	.50	1.00	.75
	60,001 and over	.70	.60	1.00	.75

Source: Federal Insurance Administration

* Revised rates effective July 10, 1972.

** From April 1970 to March 1972, the non-residential category contained only small business property. Since March 1972, this category includes all types of general property, including small business, apartments, churches, and state and local government property.

Clifford P. Case, U.S. Senator from New Jersey, expressed similar thoughts:

> The Flood Insurance program is only four years old and still relatively unknown. Still such experience as we now have shows, unfortunately, that most people simply do not purchase flood insurance coverage unless they are required to do so. That was true of fire insurance before lenders began requiring it; it is true of life insurance (as the social security system demonstrates); and it is certainly true of flood insurance, particularly in communities in my own state of New Jersey and in states like Pennsylvania, New York, Maryland and Virginia where no one anticipated the kind of occurrence caused by Doria and Agnes.[37]

The above quoted remarks again point to the fact that making a product available does not guarantee people will buy it. An efficient marketing system is needed, probably more so with insurance than other products.

"It Can't Happen to Me"

One of the most disturbing characteristics of the flood peril is its low frequency-high severity nature. A community needs to only have a chance of flooding once every 100 years to be considered flood-prone. This situation tends to make people complacent. Again referring to Berstein's testimony before the Senate Subcommittee, he stated:

[37] Clifford P. Case, testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, *S.2794.* (Washington, D.C.: U.S. Government Printing Office, 1972), p. 18.

> The flood insurance sales problem is still further complicated by the fact that even at a subsidized premium rate level many people in flood hazard areas, as was so tragically illustrated by tropical storm Agnes, simply do not recognize the flood peril as it affects them. The natural human tendency to feel that "it can't happen to me" is greatly magnified with respect to the flood peril, probably more than with respect to any other peril except possibly earthquake.[38]

Senator Robert Taft, Jr., U.S. Senator from Ohio, expressed similar sentiments in testifying before the Subcommittee:

> The most difficult obstacle for the flood insurance program to overcome, however, does not relate to the difficulties of certifying communities for insurance. Instead, it relates directly to the psychological outlook of individual homeowners and businessmen in the flood plain areas. People just do not think that a flood will ever affect them, and therefore they do not buy the insurance. The probability that a flood will damage their property once in a hundred years is apparently not a matter of concern to most individuals.[39]

This particular characteristic of the flood peril makes it even more evident that flood insurance must be aggressively marketed. The only other alternative is to make it mandatory.

Summary of Ameliorative Actions

The 1972 floods made it drastically clear that the National Flood Insurance Program had failed, in the sense that relatively few individuals had flood insurance. In the period immediately following the floods, a number of ameliorative actions were taken to bolster the program's effectiveness. The FIA solicited the assistance of State insurance commissioners to increase awareness of the program; salesmen's minimum commissions were raised; premium rates were reduced; and various measures to assist, encourage, and even pressure communities in gaining eligibility were adopted and proposed. Although it was encouraging that ameliorative actions were quickly taken, these actions indicated that there were some serious deficiencies in the program. Unfortunately, these corrective measures would not be of any benefit to the victims of the 1972 floods.

At that time, one may have wondered whether the actions would sufficiently improve the program so that communities and individuals would be better prepared for the next series of floods. Ironically, the alternations made in the program would not have to wait long to be tested, as another series of devastating floods was to occur in 1973.

The Floods of 1973

The floods in the spring of 1973 were more conventional, in the sense that they occurred principally in the areas bordering the Mississippi River,

[38] Berstein, p. 23.

[39] Robert Taft, Jr., testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, *S.2794*. (Washington, D.C.: U.S. Government Printing Office, 1972), p. 18.

a region with a long history of flooding. What was unconventional about the 1973 floods were their persistence and record setting levels. Four separate crests flowed down the Mississippi, with record heights reported at innumerable places. At St. Louis, the crest reached a record level of 43.5 feet on April 28. The river remained at flood stage there for more than two months, the previous record being a 58-day stretch in 1844.[40]

The driving force behind the floods was the record-setting rains. For instance, in March alone, Topeka, Kansas, received 8.44 inches—over four times the normal amount of 2.01 inches. In the same month, New Orleans had 12.17 inches versus a normal of 5.34. The same situation persisted through April, as Little Rock, Arkansas, received 14.20 inches of precipitation compared to an average of 4.93 inches. Also in April, Memphis, Tennessee, nearly doubled its regular amount, from 4.63 to 9.44 inches.[41]

At the time of this writing, it is somewhat early to assess the total damage of the 1973 floods. The General Adjustment Bureau estimates property damage at more than $500 million.[42] Agricultural losses are estimated to be substantial, as great blocks of choice farm land have remained underwater so long that many farmers will not be able to plant in time to catch the growing season. The Governor of Mississippi expects that agricultural losses from the flooding may run as high as $100 million in his state alone.[43]

Increased Participation

It is too early to evaluate the performance of the flood insurance program in response to the 1973 floods, but some general remarks can be made.

In examining how many property owners had insurance for the 1973 floods, one is immediately impressed by the increased participation since the 1972 floods. On May 31, 1972, just prior to the 1972 floods, there were over 1,100 eligible communities, with 92, 590 outstanding policies representing $1.48 billion of insurance in force. Ten months later, on March 31, 1973, just prior to the floods of 1973, there were 1,852 eligible communities, with 169,208 outstanding policies representing $2.9 billion of insurance in force (see Tables 1, 2 and 3).

A look at some individual cities and states which were affected by 1972 floods is also noteworthy. Wilkes-Barre, Pennsylvania, which had two policies prior to Agnes, had 2,413 policies by April 1973. Harrisburg increased from zero to 941. The total number of policies in Pennsylvania increased from 683 to 16,515 in the 10 month period. In Rapid City, South Dakota, 470 policies were in effect compared to 29 in May 1972.[44]

Although this participation did little to alleviate the property damage

[40] General Adjustment Bureau, *Floodwaters—Everybody's Problem,* (New York: General Adjustment Bureau, 1973), p. 4.

[41] *Ibid.,* pp. 4-12.

[42] *Ibid.,* p. 4.

[43] Niel Maxwell, "For Folks in the South, The Floods Have Left an Ocean of Troubles," *Wall Street Journal,* June 21, 1973, p. 1.

[44] General Adjustment Bureau, *Floodwaters—Everybody's Problem,* pp. 23-26.

due to the 1972 floods, it does seem apparent that the FIA and the NFIA companies have placed more emphasis on marketing the flood insurance policy. There have been numerous television and radio spots, press releases, and newspaper and magazine articles explaining and promoting the flood insurance program. The agents now have more monetary incentives to sell the product.

It is appropriate to conclude that the National Flood Insurance Program has improved, but to suggest that its purpose has been accomplished would be premature. Even though over 2,200 communities have become eligible (as of May 31, 1973), this still represents only 30 percent of the nation's 7,000 flood-prone communities. Although the FIA estimates $15 million will be paid out in claims, this still is a rather small amount compared to total estimate damages of $500 million. In looking at Table 5, which shows the number of property owners with flood insurance in those states affected by the 1973 Mississippi floods, one has mixed impressions. Certain states, like Louisiana, seem reasonably well prepared, but one has considerable doubt about other states.

Upon closer examination, Louisiana's favorable position may be due more to its position at the end of the Mississippi than to a program of thorough preparedness. Being in the lower regions of the river, Louisiana residents have the advantage of being informed that flood crests are moving down the river, hence they have more time to purchase coverage. Because a provision in the flood insurance program provides that an individual who purchases flood insurance during the first 30 days of eligibility of the community is immediately covered, many Louisiana property owners were able to purchase coverage just days or hours before the floods hit. It was reported that in Louisiana, Aetna Life and Casualty agents worked round the clock in writing more than 8,000 policies a week for a three week period.[45]

TABLE 5
NATIONAL FLOOD INSURANCE PROGRAM
Number of Outstanding Flood Insurance Policies in States Adjacent to Mississippi River as of April 1, 1973

State	*Number of Policies*
Minnesota	416
Wisconsin	257
Iowa	335
Illinois	760
Missouri	383
Kentucky	1,085
Tennessee	198
Arkansas	131
Mississippi	4,779
Louisiana	20,020
TOTAL	28,364

Source: General Adjustment Bureau, *Floodwaters—Everybody's Problem* New York: General Adjustment Bureau, 1973, pp. 23-26.

45 "FIA Has 'Instant' Cover for Flooded Louisiana," *Business Insurance,* May 7, 1973, p. 1.

These 25,000 policies more than doubled the entire number of policies that were written in the state prior to the three week period.

The Louisiana situation raises some serious questions. If communities and individuals are allowed to wait until the last minute before obtaining flood insurance, a high degree of adverse selection will take place. This situation also negates the effect of land use and control measures, one of the pillars of the flood insurance program. As stated in a HUD publication:

> The requirements to adopt land use and control measures are the basic thrust of the program. Without it, there would be no incentive to reduce losses, and the program would then encourage rather than discourage the injudicious use of the nation's flood plain.[46]

One might suspect that the FIA and NFIA were promoting these last minute writings in order to avoid a repeat of the severe criticisms that were made following the 1972 floods. Although the probability of this type of situation will be greatly reduced upon the termination of the emergency program at the end of 1973, one gets an uncomfortable feeling at this abandonment of sound risk management and insurance principles.

Further Ameliorative Actions

The emphasis of ameliorative actions following the 1973 floods is focused upon three basic areas. The first is in the form of increased pressure on flood-prone communities to gain eligibility and on property owners in flood-prone areas to purchase insurance. The Nixon Administration proposal, which followed the 1972 floods, has been resubmitted in essentially the same form. In testifying before a U.S. Senate Subcommittee on Senate Bill 1495, the "Flood Disaster Protection Act of 1973," George Berstein stated:

> It is now becoming common knowledge that few people buy flood insurance. . . . .until they either are forced to or are in imminent danger of sustaining a severe loss or have already suffered the loss. As we have said for some time, the totally voluntary nature of the flood insurance program is its major defect.[47]

The bill provides for identification of the nation's flood-prone communities by HUD. After July 1, 1975, in any identified community that was not participating in the program, no Federal financial assistance or Federally-related assistance (such as a mortgage loan from an FDIC insured bank) would be available for any acquisition or construction project in any flood-prone area of the community. Projects in non-flood-prone areas would continue to be eligible for whatever assistance is available.[48]

Once a community becomes eligible, individuals, businesses, and other

[46] United States Department of Housing and Urban Development, *Programs of the Federal Insurance Administration* (Washington, D.C.: United States Government Printing Office, November, 1971), p. 7.

[47] George K. Berstein, testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 93rd Congress, *S.1495—Flood Disaster Protection Act of 1973* (Washington, D.C.: Federal Insurance Administration, June 11, 1973), p. 5.

[48] *Ibid.*, p. 7.

recipients of Federal or Federally-related assistance on existing projects will be required to purchase flood insurance if they are located in identified flood-prone areas.[49] Additional pressure to purchase flood insurance is contained in the "Disaster Preparedness and Assistance Act of 1973." Under this bill, property owners would be required to obtain flood insurance where it is reasonably available[50] in order to retain their eligibility for federal disaster assistance in the event of future disasters. In effect this requires those receiving disaster grants or loans to use part of the money to purchase flood insurance.[51]

The second area of emphasis focuses on a major impediment to communities gaining eligibility. Senate Bill 1495 would repeal the provision that a property owner, who had failed to purchase flood insurance, would lose Federal disaster benefits. Repeal of this provision would permanently remove this impediment.

The third area of emphasis is on providing more coverage in the form of increased limits for each policyholder. Senate Bill 1495 would increase individual limits. The present and proposed limits are presented in Table 6. Note that the largest increases are for limits on commercial contents, which has been a big problem area in flood losses. In order to absorb these increased limits, the maximum amount of total insurance in force is to be raised from $4 billion to $10 billion.

Conclusions and Guidelines

The detrimental effects of floods are far-reaching. There is often a total loss of property. The indirect or consequential losses many times cause even more problems. Plants are closed down and people are left without jobs. Massive unemployment puts pressure on a state's unemployment compensation system. Agricultural losses can be especially high if the floodwaters do not recede in time for the planting seasons. The problems associated with the cleanup operations and their corresponding costs can be staggering. The overall results of such devastation can seriously affect the mental health of the populace. It was reported that suicides, divorces, psychiatric treatments, and other measures of emotional stress increased sharply in such areas as Wilkes-Barre, Pennsylvania, and Rapid City, South Dakota, following the 1972 floods.[52] These problems are especially bad for older people, who in many cases lost a lifetime of personal possessions.

This entire situation is immensely aggravated when there is no form of insurance or other financial assistance for indemnification purposes. Although some relief can be gained through the federal disaster assistance

[49] *Ibid.*, p. 8.

[50] The wording of the bill refers to disaster insurance, so other types of insurance, like earthquake, would be included in the bill. Flood Insurance is the only Federal insurance so effected.

[51] "Nixon Gives Plan to Spread Burden of Disaster Relief," *Wall Street Journal,* May 9, 1973, p. 6.

[52] "C.B.S. Evening News," C.B.S. Telecast, April 13, 1973 and June 8, 1973.

TABLE 6

NATIONAL FLOOD INSURANCE PROGRAM
Maximum Amount of Insurance*
at Subsidized Premium Rates

Type of Structure	Structure		Contents	
	Present	Proposed	Present	Proposed
(1) Single Family Residential	$ 17,500	$ 35,000	$ 5,000	$ 10,000
(2) All Other Residential	30,000	100,000	5,000	10,000
(3) All Non-Residential**	30,000	100,000	5,000	100,000

Source: Federal Insurance Administration

* After a rate study has been completed and actuarial premium rates have been established for the area, additional coverage equal to amounts listed above will be available at actuarial rates.

** From April 1970 to March 1972, the non-residential category contained only small business property. Since March 1972, this category also includes all types of general property, including small business, apartments, churches, and state and local government property.

programs, assistance is often incomplete and slow in arriving, involves loans which must be repaid, and is dictated by political considerations. From the individual's standpoint, most would argue that an insurance arrangement is far superior to a relief or assistance program.

The final and most frustrating scenario is when flood insurance is available, but the people exposed to the flood peril do not have it. This characterizes the period following the enactment of the National Flood Insurance Act of 1968.

The purpose of this paper has been to analyze the Federal Flood Insurance Program. The analysis has, for the most part, been critical. The author readily admits that substantial improvements have been made. The number and scope of the ameliorative actions taken over the last few years is evidence of these improvements. Yet these actions are also evidence that there was a great deal which was lacking when the program was initially implemented.

Had this trial and error process taken place in the laboratory, few would be worse off. But it did not take place in the laboratory; it took place in Wilkes-Barre, Pennsylvania, in Rapid City, South Dakota, and in other cities ravaged by floods. The victims of this time-consuming process were people. It is the author's wish that the principal result of this study will be to stimulate thinking as to how future federal programs in property insurance might be improved in their initial development and implementation. From the experience with the Federal Flood Insurance program, certain guidelines can be drawn which can be applied to future programs. These guidelines are included below.

1. Use of Modern Marketing Techniques. Making a product available does not guarantee that the consumer will acquire it. This has been demonstrated amply by the flood insurance product. Advertising, promotion, distribution, and selling techniques must be employed to assure that the product moves smoothly and efficiently from the producer to the ultimate consumer.

2. Adequate Incentives for Salesmen. Personal selling is important in the distribution of the insurance product. In flood insurance aggressive selling is especially important. Salesmen need to be given proper marketing incentives to sell the insurance product. Efforts should be made to determine the minimum level of monetary incentives before implementation of the plan. The raising of minimum levels in the flood insurance program suggest that they were initially set too low to induce agents to push the product.

3. Commitment from Management. Nonmonetary incentives in the form of commitment, encouragement and support from management are needed to stimulate sales. In the case of the flood insurance program, this would include middle and executive management levels of the companies participating in the National Flood Insurers Association. Evidence indicates that the management of NFIA companies has been less than enthusiastic in giving its commitment to the flood insurance program.

4. Market Testing of Product Price. Before a product is put on the market, an appropriate price range should be determine. In general, the price should be high enough to cover costs, but low enough to encourage consumer purchases. In the case of the flood insurance product, cost is not a material factor, as there is a 90 percent average subsidy. But the determination of the price the consumer is willing to pay is crucial. Again it appears that not enough forethought was given in the initial price determination as premium rates were later significantly reduced (not because of better loss experience, to the contrary experience became worse, but because evidence indicated consumers were not willing to buy at the initially higher rates).

5. Measure Demand for the Product. Even though there may be a substantial need for a product, there is no guarantee that a corresponding demand will exist. Flood insurance has been characterized by this particular behavior. It became apparent that most communities would not seek eligibility and most property owners would not purchase coverage on a totally voluntary basis. Certain incentives and penalties need to be adopted if the program is going to become widespread in its coverage.

6. Provide Adequate Limits from the Program's Inception. If the Federal government is going to commit itself to an insurance program, it makes little sense to begin with inadequate limits. If a product is going to be offered, why make it inferior? If there is a desire to decrease the amount at risk, this can be accomplished at the other end of the loss spectrum through

increased deductibles. There is also the possibility that some type of reinsurance on the private market might be obtained. The reasoning behind initial low limits in the flood insurance program was to first acquire some loss data, and then if loss data were favorable, to increase the exposure through higher limits. What actually happened was just the opposite. Early loss experience was some of the worst on record, but higher limits are still being proposed because property owners complained that they could not purchase adequate coverage.

7. Determination of Immediate Bottlenecks. Before program implementation, some thought should also be given to bottlenecks which may hinder the smooth operation of the program. In the case of the flood insurance program, the requirement that actuarial premium rates need be determined before communities could become eligible seemed to be a rather obvious bureaucratic bottleneck. Since these actuarial studies take almost a year, an automatic one year delay was built into the program from its beginning. The fact that an amendment postponed this requirement shortly after the program became effective further suggests that such action should have been incorporated in the original program. The provision that persons in eligible communities can lose Federal Disaster Assistance Benefits for failure to purchase flood insurance is another impediment. To date the bottlenecks have not been removed, merely postponed.