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HILL, NEW HAMPSHIRE RELOCATED: THE SOCIO-ECONOMIC IMPACT OF REGIONAL FLOOD CONTROL ON A SMALL COMMUNITY

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INTRODUCTION

This paper is a scenario of a decentralized land-use planning effort in a small New England community which faced extinction as a result of the construction of a flood control dam and reservoir in 1940. It reports on a study that was specifically designed to take a retrospective look at the social, political, and economic parameters from the pre-relocation period to post relocation.¹ Also, social-psychological impacts were measured through an attitudinal study of the relocated and non-relocated populations of Hill.

In essence, the project was a social-economic impact statement which looked back on what had been done rather than trying to anticipate future outcomes. Hill's relocation process provides a good example of a successful decentralized planning process in a small rural town setting. The approach and experiences of Hill furnish insights and guidelines for federal, state and local officials who may become involved in the relocation of small towns or neighborhoods currently situated on flood plains where periodic flooding leads to the loss of life and property.

The specific objectives of this paper are (1) outline the events leading up to the relocation of Hill, New Hampshire; (2) describe the actual land use planning techniques which were utilized in moving the town; and (3) indicate the overall impacts on the community as illustrated through trend analysis of specific social and economic indicators compared to two control communities in the region.

In 1927, 1936, and 1938 several communities along the Connecticut and Merrimack Rivers endured the social and economic catastrophes associated with flooding. Individuals lost their lives, families lost their homes, industries were destroyed, and transportation systems, communication networks, and utilities were all rendered inoperative.

The response to the first flood was a flood relief plan which centered around repairing existing damage rather than formulating a comprehensive flood protection plan. It was not until after the 1936 flooding that the states of New Hampshire, Connecticut and Massachusetts advocated the necessity for a regional, comprehensive flood control program. The federal response under the 1936 Flood Control Act was to 1) provide for problem studies to be conducted by the Corps of Engineers to examine possible sites for flood control devices in the Merrimack and

Connecticut watersheds; 2) authorized and appropriated sums of money for construction of flood control projects after a comprehensive plan was developed; and 3) provided for compacts between the states in these watersheds which would allow for joint decision-making and shared costs of any flood control projects which might be initiated.

Under this act the states were required to provide without cost to the federal government, all lands, easements, and rights-of-way, to maintain and operate the works after completion, and to provide tax reimbursement to affected towns. The federal government would provide funds for the cost of construction of dams and reservoirs. Also, the costs of relocating the public buildings, bridges, roads, utilities, and power lines would be incurred by the federal government to reduce the costs to the states.

Two reservoirs were suggested by the study group from the Corps of Engineers for flood protection along the Merrimack, the Blackwater Reservoir and the Franklin Falls Reservoir. The benefits derived from these projects would be primarily for flood protection, however benefits might also be derived from other uses of the reservoir such as: water conservation, storage, and possible power output. The projected annual savings from flood loss in 1937 dollars for the state of New Hampshire would be \$426,000 per year and \$274,000 for Massachusetts.

As part of the Franklin Falls project, the entire village of Hill, New Hampshire would have to be relocated since it fell within the area of the projected dry bed reservoir. The remainder of this paper discusses the land use planning process involved with the relocation, and the social and economic impacts the town experienced as a result of moving the village of Hill to a new site.

HISTORICAL BACKGROUND

The Hill that existed pre-1930 represented an ideal type of a small, rural, New England town. Figure 1 shows the locations of Hill in central New Hampshire. Essentially, the town was autonomous in that services, work, entertainment, and social interactions took place within the community. There was one major tree-lined road which extended along the contour of the Pemigewasset River. The Boston and Maine Railroad ran along the river's bank and was a major source of public transportation and shipping. The majority of residents worked in town although some commuted to nearby towns such as Franklin or Bristol. Local industry included a glass-cutter factory and a crutch factory. Small farms dotted the surrounding countryside but a major proportion of the land was already covered with second-growth forest.

By the mid-thirties, in the middle of the depression, Hill, like most other small towns had begun to undergo radical changes, not from within, but rather from external regional and national pressures. The quiet main street had become a segment of the

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¹ For a detailed description of the study methodology, see Adler, S. P. and E. F. Jansen, Jr. *Hill Reestablishment: Retrospective Community Study of a Relocated New England Town*. Institute for Water Resources U. S. Corps of Engineers, Fort Belvoir, Va. 1978.

State Highway system. The list of year round residents in Hill was not expanding or contracting, however, the number of non-residents who were making Hill and the rest of the Lakes Region of New Hampshire a summer home paradise was beginning to be recognized. The glass-cutter works was sold in 1931 and moved to New Jersey. This represented a change in the town's power structure, since the previous owner had had substantial influence within the town. This allowed room for new leadership and also forced residents to look for work outside of the community. Also, rail service had been discontinued as a result of massive damage from flooding. This led to greater dependence on automobile transportation. In essence, the town was undergoing an initiation to become part of mass society.

PRE-RELOCATION

In March of 1937, just prior to Hill's yearly town meeting, the Corps of Engineers held hearings announcing the construction of the proposed dam which would protect downstream residents at the cost of inundating the village of Hill. This symbolized a direct intervention of the federal level of government and regional problems into a local polity.

The question was could this small town deal effectively with the possibility of losing their central village which represented approximately 30% of their total tax valuation, or would the town disband with the remaining outlying areas being divided between the two larger towns which lay to the north and south of the community.

A few days after the Corps presentation and hearings in Franklin, New Hampshire, the director of the New Hampshire Planning and Development Commission visited the selectmen of Hill. He suggested that there were only three choices open to the town in the event that the village would have to be relocated. First, the town could disband, each person going their own direction, secondly, they could build new houses within the township and in an every-man-for himself procedure, scattering themselves throughout the landscape relying on the overly burdened town economy to supply roads and other services. Or, finally, the town could select a site, and with the planning boards help, build a new model community.

It was still too early for the actual possibility of inundation by a reservoir to appear as a reality to the citizens of Hill. However, the selectmen took two actions to insure the communities future. First, they purchased options on three possible sites for a new village to avert land speculation in the event that the town did have to relocate. And second, they proposed that the New Hampshire Legislature pass a bill to provide for reimbursement for all taxes on land or property that would be lost by the construction of the dam and reservoir.

PLANNING PROCESS

Two years later, 1939, when the actual preparation for construction had begun on the Franklin Falls Dam, the town of Hill called a special town meeting and invited the Director of the State's Planning and Development Commission to present his ideas for a new, planned, community. The Director of the Commission expressed his belief that the community could re-establish itself and that a well planned community was the only kind that the town could afford. It was also made abundantly clear that building a new village would be entirely the town's undertaking, although the planning agency would offer ideas, advise, and direction whenever it was requested. The town voted

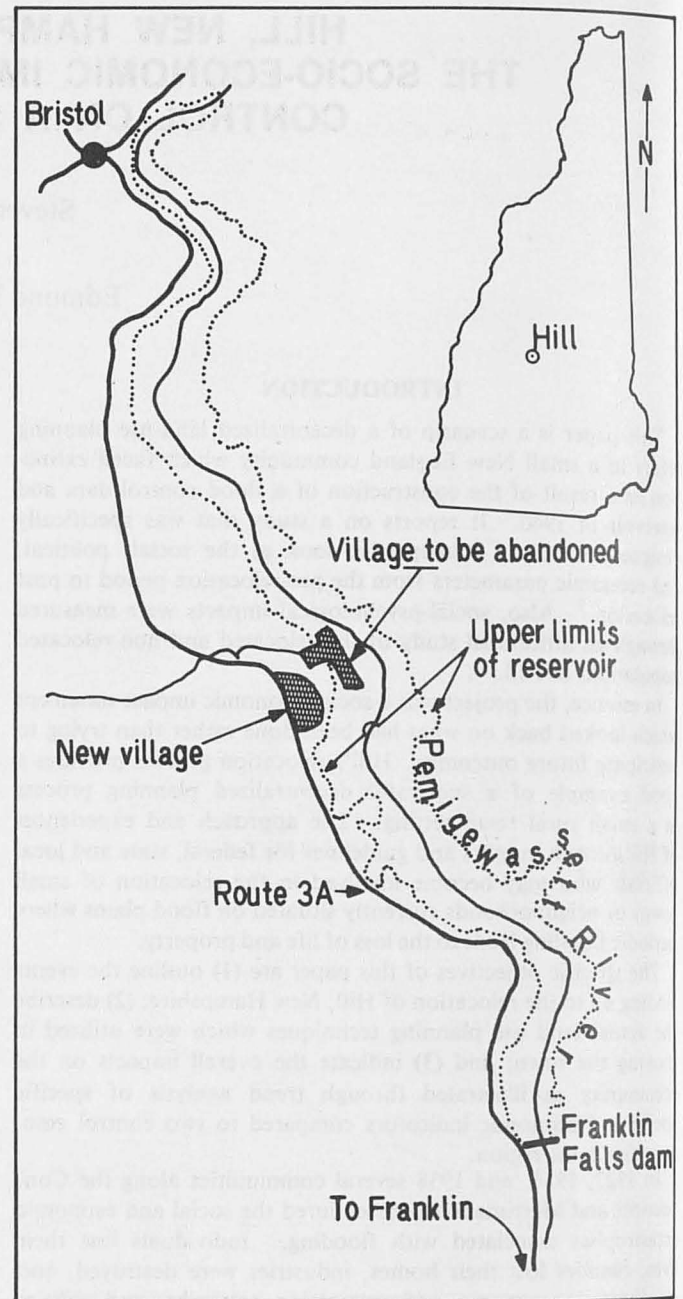


FIGURE 1.
AREA MAP OF HILL AND REGION

unanimously to reestablish itself in a new site as a planned community.

The strategies of the planning commissioner were well suited for approaching a small New England community. First, he placed the responsibility for establishing a new village on the highly independent shoulders of the Yankee community. He was not going to tell them what to do. Second, he used the existing infrastructure of the town meeting as the decision-making body throughout the entire relocation process, although not every issue could be voted on by everyone, and committees were formed to carryout many tasks, all critical decisions were made at an open town meeting that lasted for the duration of the town's moving process. And third, by directly involving each citizen in the decision-making process he created a strong consensus whose

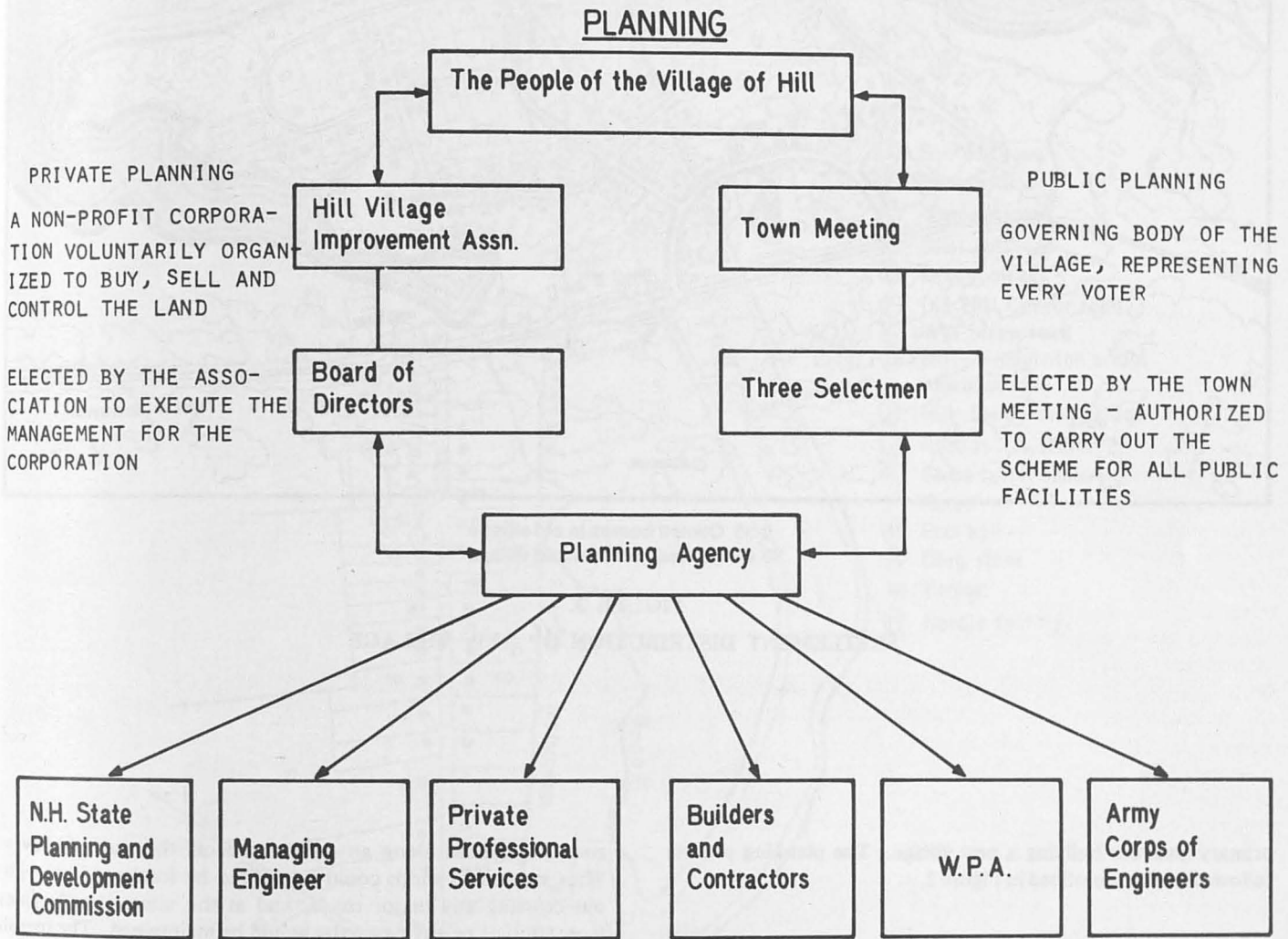
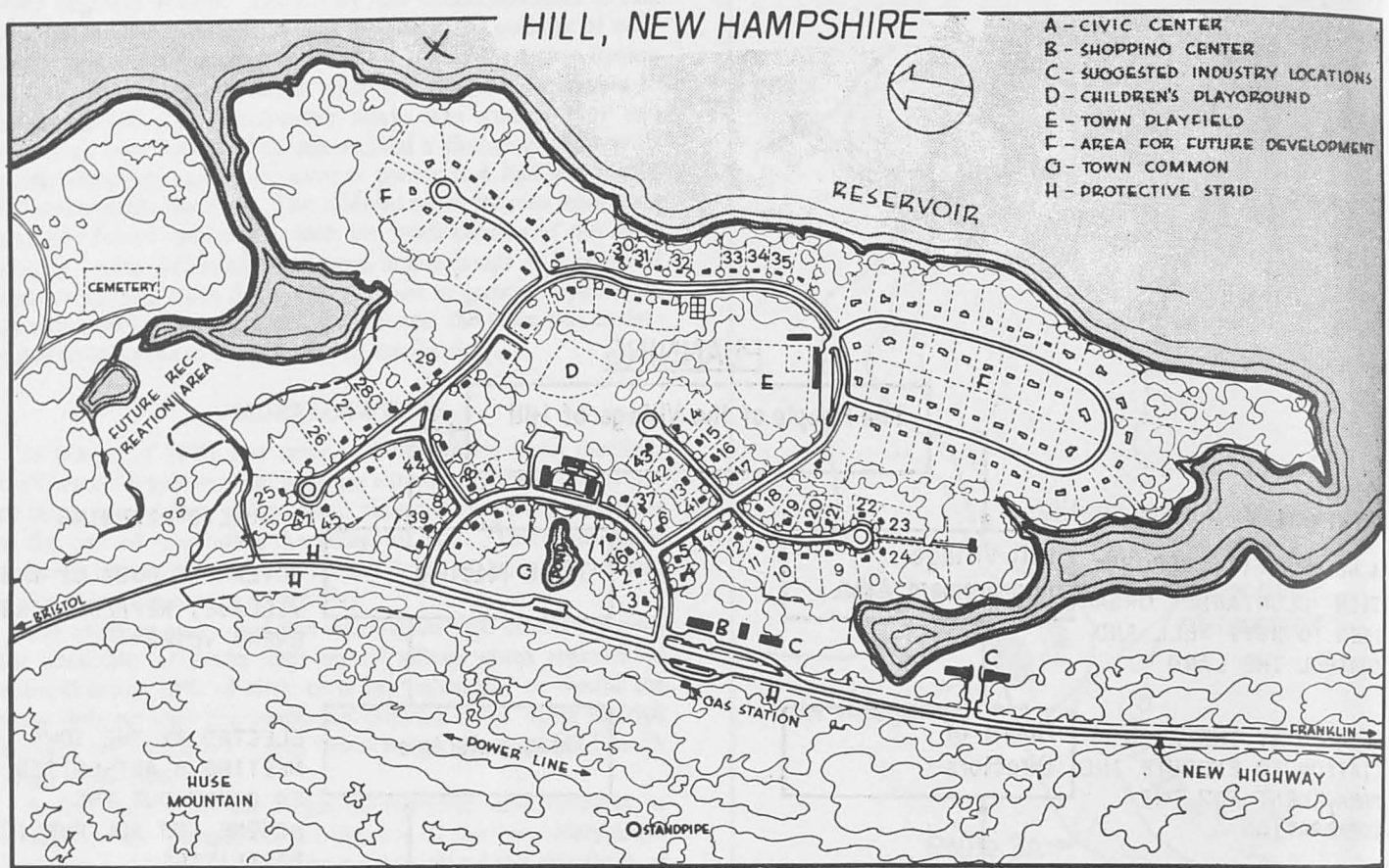


FIGURE 2.
PLANNING PROCESS FOR THE RELOCATION



0-35 Owned homes in old village
36-47 Rented homes in old village

FIGURE 3.
SETTLEMENT DISTRIBUTION OF NEW VILLAGE

primary goal was building a new village. The planning process followed in Hill is outlined in Figure 2.

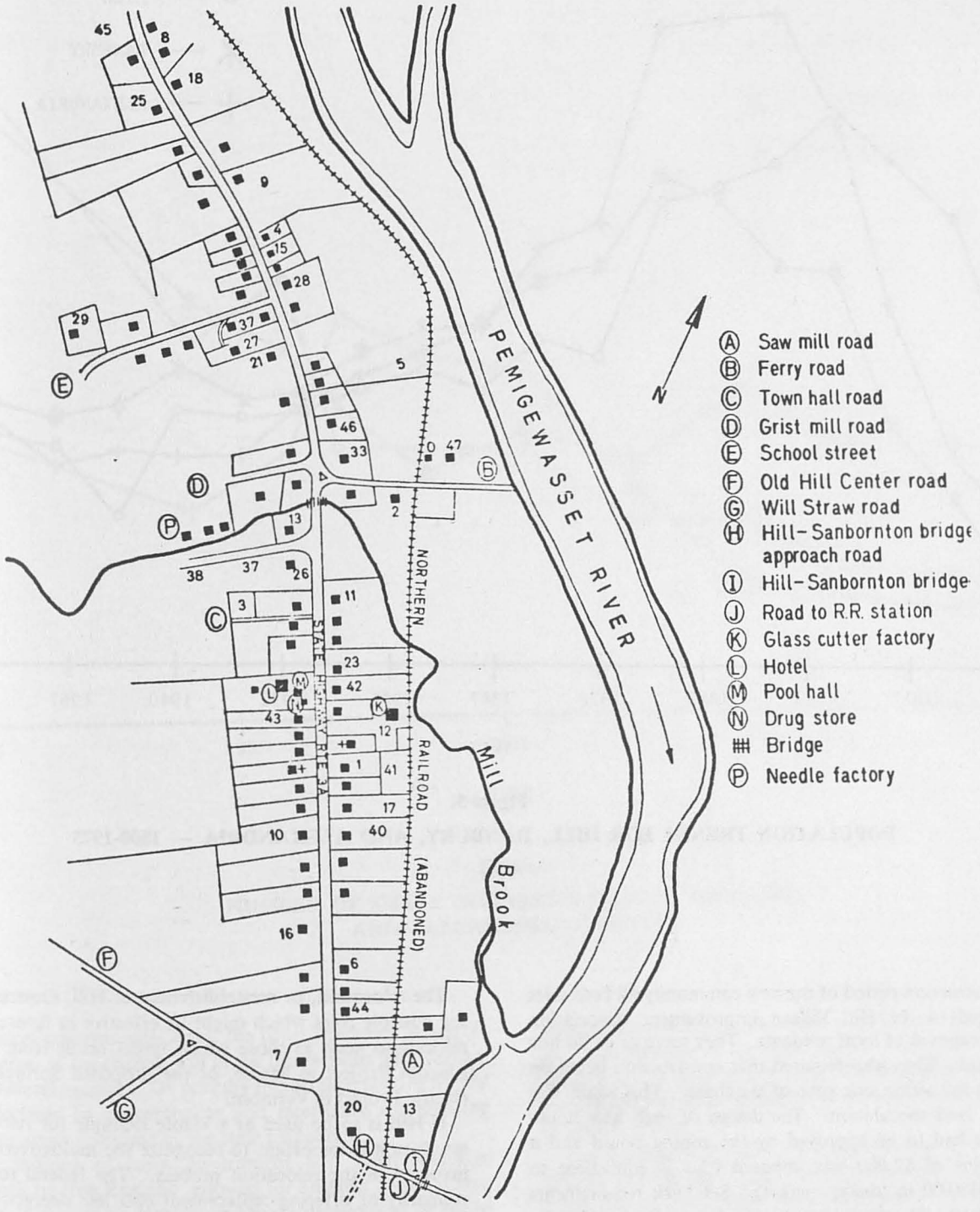
RELOCATION

The site which was finally selected was located on sprout land, or land which had recently been cut over. It was only one half mile from the existing village and bordered the new highway which was already under construction. The State Planning Commission had prepared both blueprints and models of the basic shape of the new community so that individuals could conceptualize what their village would look like. The plan was left somewhat vague so that individuals could vote on the specific details. The design which had been proposed was intended to remedy many of the land use problems which had faced the old village. First, and most obviously, the town was moved up to a bluff totally out of the flood plain. Residential streets curved continuously and did not border any major thoroughfare, which reduced the traffic flow through town. A commercial

zone was placed along an access road off the major highway. Thus stores and shops could be utilized by local residents without crossing any major roads, and at the same time, business from tourists or any passersby would be maintained. The overall street area of the new village had been shortened from the two and one half miles which existed in the old village to one and a quarter miles which reduced maintenance costs. All service mains and conduits were placed beneath a grass strip between road and sidewalk which meant that any repairs or work could be conducted without destroying existing pavement.

A buffer zone running along both sides of the major highway offered protection from traffic and noise. Also, each house abutted a green belt to allow for the maximum amount of privacy. A map showing the layout of the new village is presented in Figure 3. This layout can be compared with the settlement distribution on the old village as shown in Figure 4.

To insure the continuance of these amenities and to reduce the possibility of capricious development, zoning ordinances were passed to protect the new village from unplanned, rapid growth. There had been no zoning at all prior to the relocation. During



- (A) Saw mill road
- (B) Ferry road
- (C) Town hall road
- (D) Grist mill road
- (E) School street
- (F) Old Hill Center road
- (G) Will Straw road
- (H) Hill-Sanbornton bridge approach road
- (I) Hill-Sanbornton bridge
- (J) Road to R.R. station
- (K) Glass cutter factory
- (L) Hotel
- (M) Pool hall
- (N) Drug store
- # Bridge
- (P) Needle factory

FIGURE 4.
SETTLEMENT DISTRIBUTION OF OLD VILLAGE

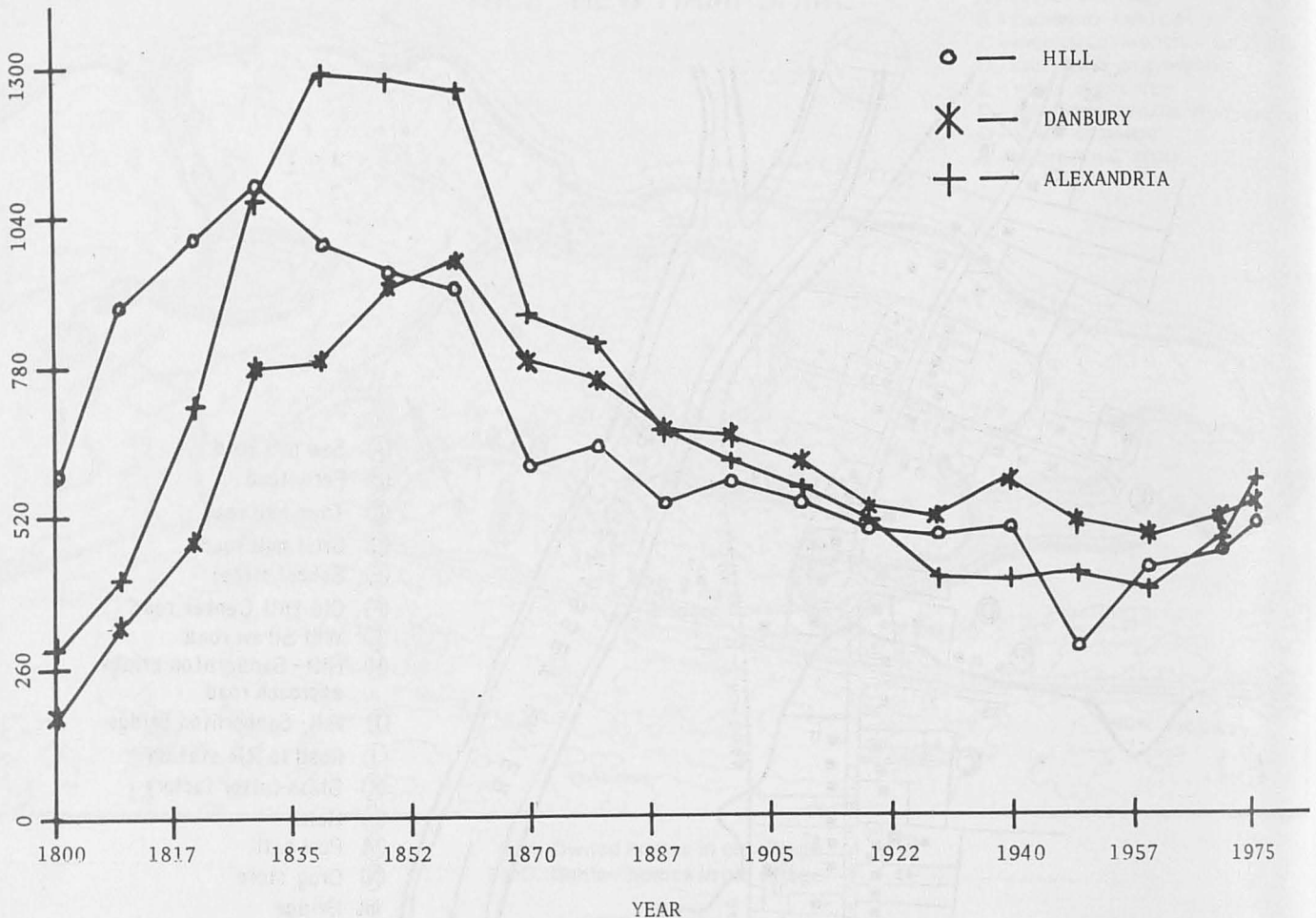


Figure 5.
POPULATION TRENDS FOR HILL, DANBURY, AND ALEXANDRIA — 1800-1975

the early construction period of the new community all land sales were delegated to the Hill Village Improvement Association which was composed of local residents. They serve as an ad hoc planning board. They also required that construction begin on each housing lot within one year of purchase. This again was to deter any land speculation. The design of each new house in the village had to be approved by the zoning board and a minimum value of \$2,000 was imposed (this is equivalent to \$20,000 or \$30,000 in today's market). Set back requirements were established. The water system was designed to service the projected growth of the community at a maximum density of one family per acre in the village. This placed an upper limit on future population growth in the village area.

Another land use outcome of interest was that since the undated land was only going to be a dry bed reservoir the land could still be managed for multiple use. The State now has some recreational facilities and allows leasing the land for agricultural purposes. Also, the inundation of the Old Hill Village turned the new village into an owners community in that all rental properties had been located in the old village.

The relocation, or reestablishment of Hill, illustrates a format for possible roles which might be effective in future community relocations such as those which might result from the Dickey-Lincoln Project in Maine, or the proposed Springfield Hydroelectric Project in Vermont.

If Hill is to be used as a viable example for relocating communities it is important to recognize the multigovernmental mix involved in the relocation process. The federal role consisted primarily of offering replacement cost less depreciation for the land and buildings which were going to be acquired. One other federal involvement consisted of the work done by the WPA. Namely, to rough out the streets and landscape the town. The most important roles however existed between the State, the town government, and the individual citizens of Hill.

In the Hill relocation, the State, via the Planning and Development Commission, acted as counselor, organizer, aid, planner, architect, construction engineer, and intermediary between the town and other governmental divisions. The Planning Commission made the town cognizant of all the possible opportunities for aid from federal and state agencies.

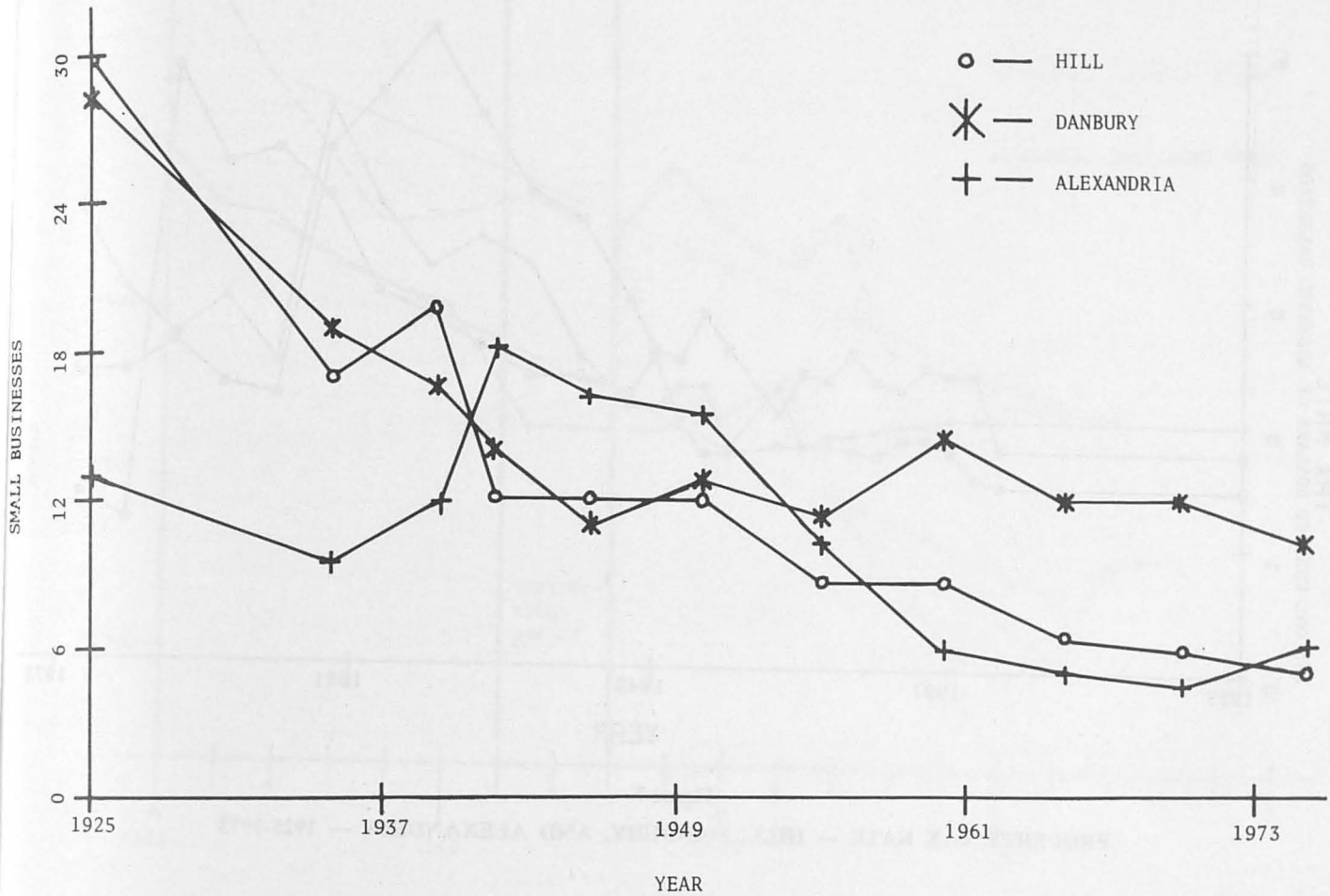


Figure 6.
NUMBER OF SMALL BUSINESSES IN HILL, DANBURY,
AND ALEXANDRIA — 1925-1973

At the local governmental level, the town selectmen served as representatives of the citizens will in the interactions with various state and federal agencies. Of primary importance was the ability of the selectman to conceptualize and internalize the planned model community proposed by the state planners.

The institutions of town government and town meetings characteristic of New England, allowed for an open forum where citizens could discuss alternatives and make decisions as an entire unit. The open town meeting allowed for public participation at each critical stage during the relocation process. It is because of the importance placed on the individual citizens that the re-establishment of Hill should be considered a valid example of a truly decentralized planning process with a heavy emphasis on citizen involvement.

TREND ANALYSIS

The overall impacts of the relocation along social and economic parameters can best be described by a series of trend analysis

which compares Hill to two other control communities of similar size, and location in the same region. The object of the trend analysis was to determine whether the relocation could have been responsible for any deviation from the evolutionary path followed by similar towns.

The population trends for the other towns studied were significantly correlated to Hill and represent the same rural urban migration in the 1820's, and agricultural decline during the 1880's when agriculture began to open up in the West. Figure 5 shows a fluctuation in population size at the time of relocation is recognizable and within a short period is again comparable to the control communities.

The number of small businesses reflects both economic stability and diversity in a small community (see Figure 6). Before the relocation the Hill population supported a number of private enterprises; a hotel, restaurant, drug store, butcher, etc. After the relocation only one general store, a garage, and a couple of small industries remained. This is illustrated by the sudden

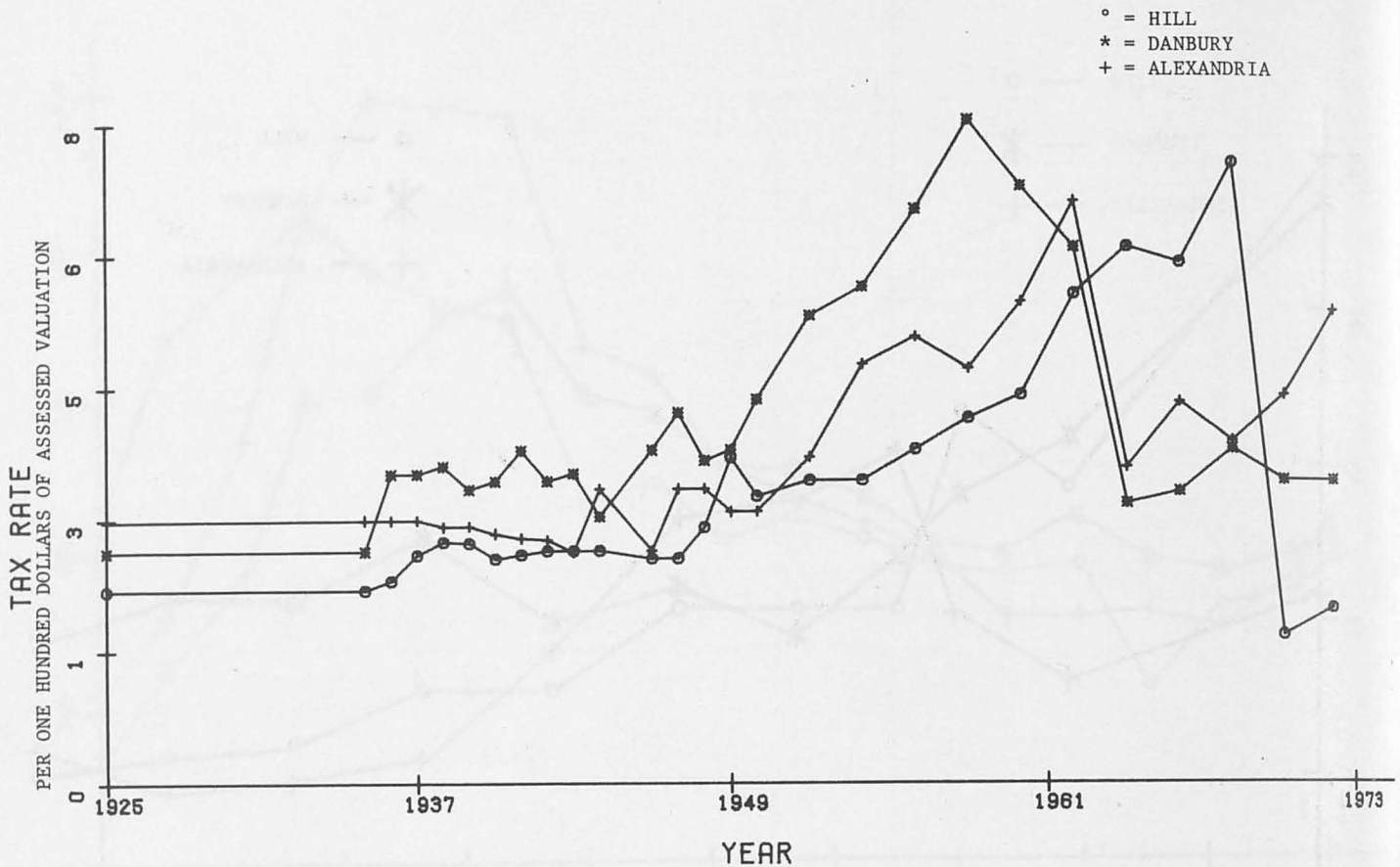


Figure 7.
PROPERTY TAX RATE — HILL, DANBURY, AND ALEXANDRIA — 1925-1973

downward slope at the time of relocation. Even with this abrupt decrease in one year, Hill still remained highly correlated to the overall regional trends. Possible explanations for this are most likely very similar to those factors which influenced changes in population size, and in recent history are probably related to the centralization of shopping in larger urban areas which has been greatly influenced by private transportation.

Property tax was included as an indicator to determine whether the relocation was associated with an increase in the town's tax rates. A rate increase would have been an additional indirect cost to all property owners in Hill. The flatness of the trend during the relocation period illustrated in Figure 7, shows no abrupt changes. Payment of tax reimbursement by the states that were protected by the Franklin Falls Dam offset the additional tax share each individual would have had to pay because of a decrease in population. These monies are being paid even today on the lands which had been inundated and are computed into the tax formula for Hill each year. The sudden drop in tax rate during the 1970's represents a reevaluation of property to current market value.

The entire Lakes Region of New Hampshire has seen extraordinary increases in the number of seasonal residents in recent years. In Hill today only a quarter of the homes are seasonal while in the other two towns nearly half are seasonal. The variation is not due to differing amount of water front land.

Rather, since the time of relocation, Hill has had a zoning ordinance, a planning board, and subdivision regulations which require a three-acre minimum lot size for any development outside the immediate village area. The two control communities have not adopted controls for development beyond subdivision regulations which simply specify street widths, and sewage disposal requirements.

In a study conducted by the University of New Hampshire's Agricultural Experiment Station, published in 1958, the number of roughage consuming livestock in Hill was compared to other towns in the area. Since the area is dedicated primarily to dairy farming any change in the number of animals would be an indicator of changing land use patterns. Figure 8 depicts a decreasing trend in livestock numbers for both Hill and the region.

In considering the preceding trend analysis; three general patterns appear as a result of the relocation of Hill.

(1) A radical change along some social and economic indicators at the time of relocation was generally an accelerator phenomenon. That is, while Hill suffered some severe changes within a short period of time after the relocation it was again parallel or equal to other communities in the area. It might be questionable whether this same decline and equalization pattern would be repeated today since the trends in the 1940's reflected a national cultural evolution in the shape of small rural communities.

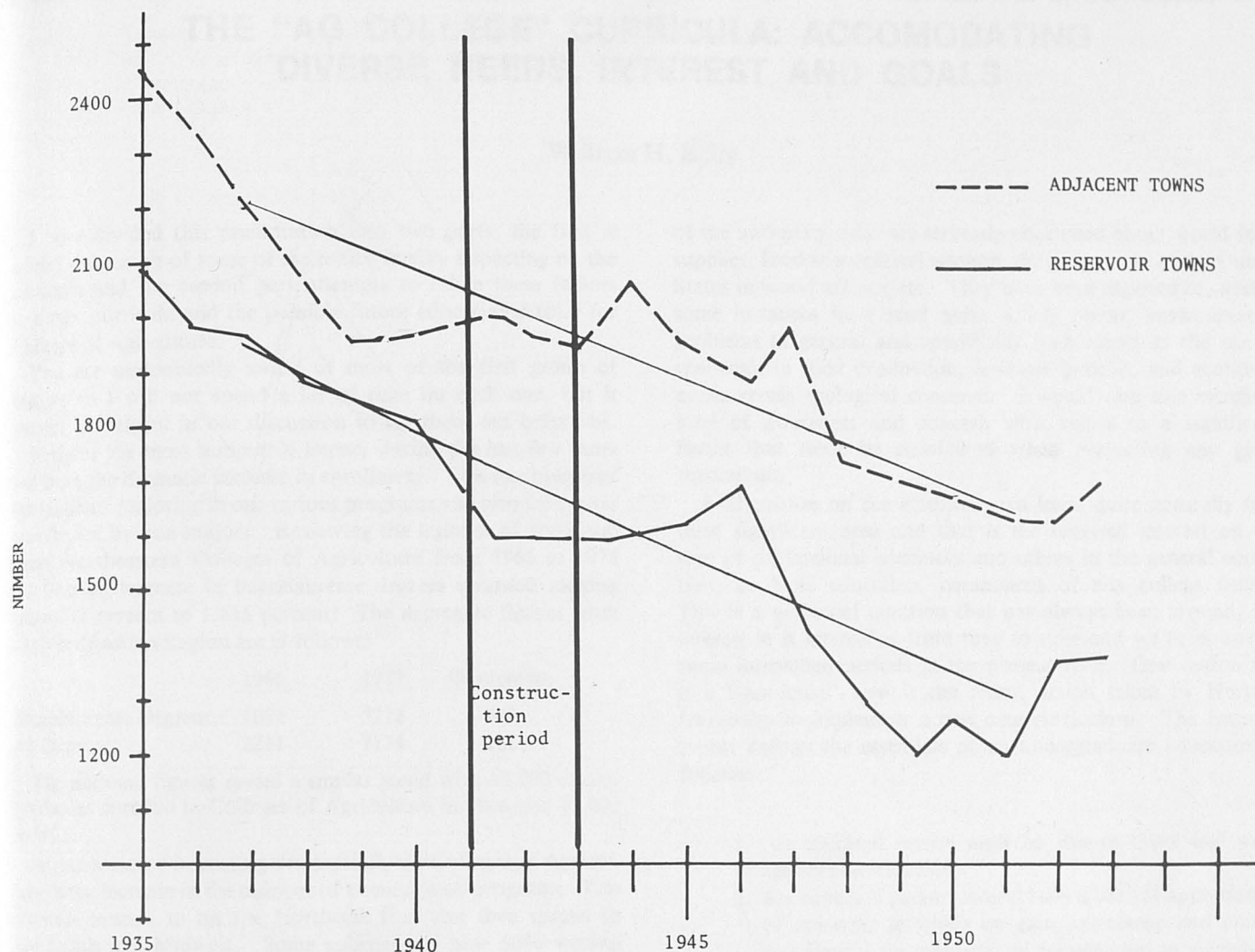


Figure 8.
NUMBER OF TAXABLE ROUGHAGE — CONSUMING LIVESTOCK, 1935-53, IN FRANKLIN FALLS AREA

(2) There was surprisingly little or no change among some indicators where change would be expected. This points to the town's ability to ameliorate certain negative effects by the strategies which were employed in their reestablishment of Hill. For example, the State's reimbursement for lost tax lands kept the tax rate constant throughout the relocation and the proceeding years. In fact it remained below the other towns.

(3) Abrupt changes did occur during other periods besides relocation. These changes generally represented regional trends as in the case of assessed value of real and personal property which showed a rapid increase in all three towns. This was caused by a reassessment of the villages at approximately the same time and was not precipitated by the relocation.

CONCLUSION

Hill stands as an excellent model of decentralized planning. Through the processes and strategies employed in the relocation Hill was able to reduce the social and economic costs that the community could have otherwise suffered. Individuals were able to maintain old friendships and a sense of community. Remaining in the immediate geographic locale also reduced many negative social impacts to the residents.

In an area such as New England where home rule is a long standing tradition, future relocations projects should utilize the talents and expertise of the local citizens who have become accustomed to making their own decisions.

One other point which we feel is pertinent to future relocations involves the intergovernmental mix. We feel that it is important to keep local and federal interaction to a minimum and to allow the local governments to work through the existing, familiar networks of state governments while in the process of reestablishing themselves.

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