LOCAL REACTION TO ACQUISITION: AN AUSTRALIAN STUDY

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SUMMARY

One method of dealing with frequent and severe flooding in urban areas involves the purchase of property in such areas by government and the relocation of flood susceptible development--a process known as acquisition. Development in these areas is generally the result of historical necessity or accident, and protection by engineering works is often not feasible. However valid the original reasons for settlement, such areas are now frequently characterized by low property values and deteriorating public utilities and housing stock.

Local reaction to acquisition schemes has often been mixed, even though the schemes may effectively provide the only market for the decrepit and severely flood-prone property. As participation in most acquisition programs is entirely voluntary, the cooperation of those affected is a prerequisite for scheme success.

Using questionnaire surveys of three acquisition sites in south-eastern Australia, this study attempts to establish which local factors are important in determining attitude to acquisition and suggests procedures to ease the implementation of such a program.

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PREFACE

This paper is one in a series on research in progress in the field of human adjustments to natural hazards. It is intended that these papers be used as working documents by those directly involved in hazard research, and as information papers by the larger circle of interested persons. The series was started with funds from the National Science Foundation to the University of Colorado and Clark University, but it is now on a self-supporting basis. Authorship of the papers is not necessarily confined to those working at these institutions.

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INTRODUCTION

Rigorously enforced land use regulations may stop or limit the spread of urban development into hazardous areas, but the problem of existing development remains. In many cases the flood-prone development may be protected by structural works or floodproofing. However, for some development the only feasible solution may be acquisition, which involves the purchase of property by government and the permanent evacuation or relocation of certain flood sensitive activities to flood-free areas.

Occasionally such programs are in part justified by the anticipated post-acquisition use of purchased property for parks, etc. However there is often a genuine desire on the part of public officials to alleviate the tangible damages and anxiety brought about by chronic flooding. At first sight one could reasonably expect that the occupants of these severely flood-prone areas would support acquisition proposals. Other work has established that a large proportion of the people in these areas are seriously socioeconomically disadvantaged and that many have little choice in their selection of dwellings (Handmer, 1981a; 1984). Locational choice was restricted--because of poverty or attachment to an area--to the oldest, cheapest, most run down, and most flood-prone housing. Opportunities to sell such housing on the normal open market are limited, and acquisition expands the prospects for sales.

Yet, support for acquisition is varied, and outright opposition exists in some communities. Clearly, in a voluntary program, the support, or at least the acquiescence, of the potential relocaters is a prerequisite for scheme success.

In an attempt to establish which factors are important in local reaction to acquisition, in this study three acquisition programs in southeastern Australia are examined. On the basis of this examination and a review of the relocation literature, hypotheses are developed to test for the existence and strength of relationships between attitude to acquisition and a range of variables. The penultimate section of the paper includes a brief overview of those factors for which questionnaire data are available and attempts to rank them in order of importance. Finally, policy recommendations are offered which could ease implementation of acquisition programs by increasing local acceptance.

The Study Sites

The three study sites represent different approaches to acquisition; their dispersal represented the practical geographic limits to fieldwork. The settlements are Lismore in northern coastal New South Sales (NSW) (pop. 24,000), Wagga Wagga on the southwestern slopes of NSW (pop. 40,000), and Echuca on the southern riverine plain (pop. 8,500). Some 1,900 dwellings in Lismore are within the 1:100 flood plain. Of these, 283 (at study commencement) lie in zones of especially frequent and severe flooding and constitute the main focus of acquisition. In the other sites the acquisition areas are spatially quite distinct. At the commencement of acquisition, Echuca West consisted of 67 dwellings including an old bus and a hut built on wheels in an attempt to escape planning regulations. Most of the houses in both the Echuca and Lismore acquisition areas lie below the 1:5 flood level, though the flooding in Lismore is more severe. In contrast, the 200 or so houses in the village of North Wagga Wagga lie at about the 1:10 flood level but are often completely surrounded by flood waters.

Although the approaches to acquisition in these three areas are quite different, certain major variables are constant across the sites providing a reasonably stable base for evaluation. The cities vary considerably in population, but all function as major service centers and are experiencing relatively sustained growth. No site has a shortage of flood-free land, parts of all three cities have been subject to severe flooding on a regular basis since settlement began, and the acquisition areas are generally areas of low socioeconomic status with low property values.

The acquisition schemes are entirely voluntary, with the authorities offering to buy property at its estimated "market value," usually as determined by government valuers. There is no obligation for people to sell or for the authorities to buy property offered for sale. The schemes are also characterized by the absence of clear post-acquisition plans.

Methodology

Data were collected and analyzed using standard social science methods: semistructured interviews with "key people," questionnaire surveys, and documentary data. Questionnaire data were analyzed using the SPSS computer package (Nie et al., 1975). Semistructured interviews were conducted with local and state government officials and key local figures to explore the response to acquisition and to assist with questionnaire design.

Questionnaire data for Wagga were obtained from the report North Wagga Wagga Development Strategy Study (SKP & MSJKY, 1979). Surveys for Lismore and Echuca involved personal interviews conducted by the author

or his assistants. A self-completion approach was employed in North Wagga. At all three sites the questionnaire sought information on people's reasons for location, their mobility, socioeconomic characteristics, flood experience, and attitudes and behavior towards the acquisition schemes. The Lismore and final Echuca questionnaire is appended (Appendix B). The Wagga questionnaire is generally similar, with the important difference being that it made little use of an open question format. Thus interviewees had to respond in terms of sets of predetermined options (see Whyte, 1977). At all sites the household was selected as the sampling unit, an approach used in acquisition studies by Wadley and Ballock (1980) on the basis of findings by Booth and Camp (1974).

Lismore. The appended questionnaire was administered to residents of the priority acquisition areas and to random samples taken from the rest of the flood plain and the flood-free part of Lismore. Interviews were successfully completed in 272 cases--153 in the acquisition areas and 119 in the two non-acquisition control areas. In the acquisition areas an attempt was made to contact all 283 households. Although response rates were moderately low at 50-60%, the samples are considered representative. Sample sizes were arrived at through an assessment of resource availability and the determination of acceptable levels of statistical accuracy. Additional survey material from work by Munro et al. (1980), in which the author was involved, has been employed in the study. Munro's self-completion attitudinal questionnaire survey was executed two and a half years before the present acquisition study. He obtained 1033 usable flood plain questionnaires, plus 249 usable questionnaires from flood-free Lismore. Because of the large number of responses, it was possible to explore certain questions in terms of

detailed flood risk by matching the Munro questionnaires with a data base containing the flood risk of individual dwellings.

Echuca. Again, an attempt was made to contact every household in Echuca West, the acquisition area. Fifty-two interviews were completed, representing a response rate of about 85%.

Wagga. Here a response rate of 84% was achieved by the survey. This is almost certainly a result of the extensive media publicity given to the survey and the importance attached to the issues by North Wagga residents, the majority of whom appear to have a strong desire to preserve their community.

RELEVANT LITERATURE

Studies of relocation have been done within a number of disciplinary frameworks and include work by architects (Goodman, 1972), anthropologists (Arnett and Johnson, 1976; Drucker et al., 1973; Smith, 1970; Schweri and Willigen, 1978), geographers/planners (Lee, 1978), economists (Stanley and Ratray, 1978; Mishan, 1970), medical researchers (Kantor, 1967), psychologists (O'Malley, 1978) and sociologists (Burdge and Johnson, 1973; Derewlany, 1981; Gans, 1959, 1962, 1973; Motz, 1977, 1978; Young and Willmott, 1957). It is not proposed to examine the details of the different approaches or those of individual studies here, though it is particularly interesting that the results of research carried out within these various disciplinary frameworks are reasonably congruent. At first sight, part of the explanation for the similar findings may appear to be the widespread employment of questionnaire surveys as the primary research tool. However, some studies have used various official records (Drucker and Smith, 1974; Drucker et al., 1973), and anthropo-

logical research has relied heavily on long, detailed, repeated interviews and participant observation (e.g., Smith, 1970; Schweri and Willigen, 1978). Where major differences in research results do exist they have been ascribed to differences between communities studied (for example between the low-income residents of major cities and rural populations) or between the cultures of different countries, to differences in the times--1950s to early 1960s and the present--which themselves reflect different government attitudes to relocation, to differences in the scale of project from wholesale relocation of small rural communities to selective purchase of properties for road widening, and to the value orientations of the researchers (Motz, 1980).

The most widely known relocation research in the English language literature has been that concerned with the large scale urban renewal (or slum clearance), highway, and reservoir projects of America, Australia and the U.K., and hence has focused on the compulsory relocation of

(i) low income urban dwellers, and

(ii) small town or rural occupants of land needed for large public projects.

Studies of the voluntary internal migration of similar "working class" people (Toney, 1976; Weissman and Paytel, 1977), and work on the forced relocation of a different group--military personnel (McKain, 1973), report the same findings as the better known research on compulsory relocation for public works. The few studies that have examined "middle class" voluntary relocaters have found them to be members of a naturally mobile group who adjust easily to new localities (Gutman, 1963; Landis and Stoetzer, 1966).

Table 1 summarizes the relocation literature and examines the impact of a range of factors on relocater attitudes and the success or deficiencies of relocation programs. Shields (1975) summarizes the results of this research succinctly:

> Most studies of forced migration have found often severe psychological stresses and social strains associated with moving... Apprehension over moving is inversely related to people's willingness to separate themselves from current friends and homes. In addition strong identification with place... was associated with high levels of apprehension over moving.

On the other hand those with a high degree of vested interest in the project were more willing to separate themselves from friends and homes. Those with a high degree of interest tend to be "of high socioeconomic status, while those who tend to be hurt most are the poor and elderly with little formal education.... These difficulties are exacerbated by the financial costs of moving."

Factors that correlated with high identification with community and place are also associated with resistance to relocation as is community identification itself. Other issues especially relevant to the present study are the level of flood experience and perception, degree of vested interest in the program outcome, aspects of the acquisition/relocation program, and level of community organization.

A wide range of factors act to exacerbate or mediate the effects of stress on individuals and communities. Public policy can have little influence over some of these variables such as the strength of family and broader social support systems, psychological and personality attributes, biological and genetic predisposition, and demographic factors such as age and income (see Smith et al., 1980). On the other hand there are factors which are largely within the control of the acquisition

VARIABLE	RELOCATION STUDIES	SELECTED W DEVELOPMEN
FLOOD FACTORS		
General	Personal flood experience and loss are the most important factors in the formation of flood related attitudes (Kates, 1962; Waterstone, 1978).	
Experience	Recent and severe flood experience may be critical in forming a positive attitude towards relocation (James, 1974; Time, 1981). A particularly propitious time to undertake relocation may be just after the area has experienced severe flooding (Ralf M. Field, 1981.	Flood damage associated wi attitude to f tion projects
Perception	Key perception questions are expectation of future flooding and perception of flood severity (Kates, 1962). The more pessimistic the responses to these questions the more likely the respondent is to want to relocate (Schweri & Willigen, 1978; O'Malley, 1978).	
IDENTIFICATION WITH COMMUNITY AND PLACE	Important factors concerned with attachment to community and place are summarised in Table 10. Stronger identification with community/place generally means greater resistance to movement. If relocatees believe they will be in the same community after the move, attitudes towards moving will be more positive (Burdge & Ludke, 1972; Fried, 1963; O'Malley, 1978; Napier & Moody, 1979; Sinclair Knight & Partners/MST Keys Young, 1979; TVA, 1972; UNDRO, 1977.	
VESTED INTERESTS	Those who believe that their interests are served by the project are more likely to have a positive attitude towards relocation, and vice versa (Burdge & Ludke, 1970, 1972; Napier & Moody, 1979; Shields, 1975). People may see themselves better off in terms of, for example housing or business. This factor relates strongly to the Valuation Procedure, below.	
ACQUISITION/RELOCATION PROGRAM PROCEDURES		
Knowledge/Publicity	Knowledge alone is often not very important in influencing attitudes (Burdge & Ludke, 1970, 1972; McDonald et al 1982). But good public relations and two-way communication is considered essential (Buffington, 1973; Colony, 1971; Perfater & Allen, 1976; Ralph M. Field, 1981). Also low levels of knowledge may produce tension and rumours (Drucker et al, 1973). See comments on Public Involvement below.	Some studies of water resource development projects have found t high knowledge levels associated with posit attitudes towards the project (Dasgupta, 19 Peterson & Ross, 1970
Time taken to decide to Acquire	Lengthy decision time may serve to increase resistance to relocation (Perfater & Allen, 1976; Platt, 1979; Ralph M. Field, 1979), except where the locals initiated the scheme (Time, 1981). Apprehension, anxiety, resentment and resistance may increase with time and indecision (Burdge & Ludke, 1972; Colony, 1971; Kantor, 1967; Knott, 1981 pers.comm; Perfater & Allen, 1976; Platt, 1979; Smith et al, 1980). Uncertainty over a long decision period may lead to gradual neighbourhood deterioration and abandonment "blight" (Perfater & Allen, 1976). This may be an asset to program officials in that relocation may be speeded up and occurs "voluntarily" (Ralph M. Field, 1979).	
Purchase Mode Voluntary/Compulsory	Compulsory purchase may increase opposition to the program (Blair, 1980, for agricultural urban land; King, Tennessee Valley Authority, (TVA) 1980, pers.comm; US-NERBC, 1976; Ralph M. Field, 1979). However, some writers feel that regardless of opposition compulsory purchase should be used if necessary to clear hazardous areas (Kusler, 1979(a)&(b); Platt, 1979).	
Valuation Procedure	This is an issue of major concern in current Australian, Canadian and U.S. voluntary and compulsory flood plain acquisition projects (Bailey, FEMA, 1981, pers.comm; Natural Hazards Observer, 1980; Toronto, Handmer, 1981(b)).	

TABLE 1

LOCAL REACTION TO RELOCATION: SUMMARY OF THE LITERATURE

VARIABLE	RELOCATION STUDIES	SELECTED WATER RESOURCE DEVELOPMENT STUDIES
DEMOGRAPHIC FACTORS:		
Sex	Generally not significant: in relocation; Booth & Camp, 1974 in hazard studies, Handmer (1979); Mileti et al (1975); (Irwin, 1979, found some differences).	
Age	Older people are more negative about relocation and experience greater apprehension (Buffington, 1973; Burdge & Johnson, 1973; Colony, 1971; Hall & Guseman, 1975; Holdsworth, 1973, US-NERBC,1976; Perfater & Allen, 1976; Shields, 1975). They are more likely to feel unfairly treated and because of the greater stress are more likely to experience psychological problems of adjustment (Perfater & Allen 1976). However, successful relocation of older people does occur (Wadley & Ballock, 1980).	Pothiadis (1960), found a similar pattern in attitudes towards major water resource projects.
Length of residence	Longer term residents are likely to be older and to this extent will exhibit reactions similar to the aged. In addition they will generally have a stronger identification with community/place. (Adler & Jansen, 1978; Colony, 1971; Hall & Gusman, 1975; Hallberg & Flinchbaugh, 1967; Holdsworth, 1973; James, 1974; US-NERBC, 1976; Perfater & Allen, 1976). Perfater & Allen (1976) also expect that longer term residents will experience negative health effects due to stress, but offer no evidence. Schweri & Willingen (1978) and O'Malley (1978) found that length of residence alone was not significant in attitude to relocation.	
Individual mobility	Life cycle stage is an important mobility determinant (Bourne, 1981) Increased mobility is associated with increased ease of relocation (Fried, 1963; Wadley & Ballock, 1980). There is evidence that migration and/or high mobility causes stress and is associated with increased mental ill-health (Abrahamson, 1965; Kantor, 1967).	
SOCIO-ECONOMIC FACTORS		
General	There is some debate on the importance of these factors, Burdge & Ludke (1972) for attitudes towards water resource projects in general, consider that socio-economic variables are not very important. While Becker (1971) found that high socio-economic levels were associated with positive attitudes towards projects. Shields (1975) for relocation, is more accurate: socio-economic variables are of some significance in that they are related to other factors known to be important, eg. vested interests, and at a community level, ability to organise.	
Education	The literature suggests that those with higher education are more supportive of relocation (Perfater & Allen, 1976; Colony, 1971 (significant in the long term); Shaw, 1975). Schweri & Willingen, (1978) and O'Malley (1978) found that the least and most educated opposed relocation.	The better educated were more in favour of projects. Pothiadis, 1960; Dasgupta, 1967.
Income	See general comments above. Schweri & Willingen (1978) found that higher income respondents were opposed to relocation, while those on low incomes hoped to better themselves (O'Malley, 1978).	
Occupation	Those whose livelihood depends on the land, farmers, will generally be more opposed to relocation (US-NERBC, 1976; NSW-WRC, 1978; Shields, 1975). See community/place attachment.	Non-farm people are more in favour of projects (Dasgupta, 1967; Pothiadis 1960). Farmers are more likely to worry about unwanted change, while business-people tend to support projects (Smith, 1970).
HOUSING FACTORS		
General	A high degree of property investment in both symbolic and monetary terms will generally lead to greater resistance to relocation (Schweri & Willigen 1978). However, in some situations forced relocation may be seen as an opportunity for upgrading accommodation or tenancy status (Wadley & Ballock, 1980; Motz, 1978).	
Tenancy	Renters are generally less motivated to remain (Schweri & Willigen, 1978; O'Malley, 1978) Tenancy status may be indicative of other factors: outright home ownership and low rents are associated with older people and longer terms of residence, which in turn are associated with greater attachment to place/community and resistance to relocation.	
Inheritances	A highly significant factor - inheritors are particularly likely to resist relocation (Schweri & Willigen, 1978; O'Malley, 1978). The factor is also important in determining identification with the area.	

TABLE 1 continued

VARIABLE	RELOCATION STUDIES	SELECTED WATER RESOURCE DEVELOPMENT STUDIES
Local Involvement in Plan Development	There is evidence to suggest that the involvement of residents early in the planning process assists in increasing program acceptability, (Adler & Jansen, 1978; Colony, 1971; James, 1974; King TVA, 1980 pers.comm; Ralph M. Field, 1981; Shields, 1975). Low levels of communication between the residents and responsible authority increase rumour, misinformation and anxiety (Smith, 1970 for water resources project), and produces tension (Drucker et al, 1973). Ralph M. Field, (1979) contains examples demonstrating, for relocation for flood damage reduction, the strength of the connection between local involvement and program success.	
Community Organisation	The general evidence for the effect of community organisation is somewhat ambivalent. Strong community leadership is considered an essential factor of a successful program by Ralph M. Field (1981). Such leadership may make it easier to involve the community in project planning. However, strong leadership has played a major part in overturning Wagga's acquisition program, and is sustaining resistance to projects in Tennessee (Schweri & Willigen, 1978).	Wilkenson (1966) found stronger resistance to water resouuce projects from a better integrated community.
OTHER FACTORS		
Physical Features of the Flood Plain	The size, shape and location of the flood plain area may make acquisition more acceptable if the hazardous area is well defined and not extensive (James, 1974).	

authority. These factors relate to the relocation procedure and include the financial arrangements, the time taken to reach decision, and the involvement of potential relocaters in decision making. Inadequate financial arrangements, long decision periods, and a failure to involve residents in project planning and implementation increase the risk of alienating the community and provoking the development of organized resistance or engendering a feeling of helplessness among potential relocaters. Feelings of alienation and helplessness greatly increase stress and the disease potential (Erickson, 1976; O'Malley, 1978; Seligman, 1975). It is important to note that being told of an impending change such as a job transfer or forthcoming move provokes stress in much the same manner as the actual event (Burdge and Ludtke, 1972; Smith et al., 1980; Toney, 1976).

Fortunately, the outlook for relocaters has improved greatly since the days of Gans (1959, 1962), Fried (1963), and Hartman (1966). Legislative and policy changes have seen bulldozer diplomacy replaced by more flexible financial compensation arrangements and negotiated settlements which have reduced both the hardships associated with land resumption and resistance to the process. As pointed out by the Australian Law Reform Commission (1980) the changes may, however, be more appearance than reality because people are aware that if they fail to reach a negotiated settlement, the government can simply resume the land. In addition, there are still aspects of both tangible and intangible losses from relocation for which financial compensation is frequently inadequate.

Australian law makes no provision for compensation where land is not physically taken but is diminished in value by government action (Australia - The Law Reform Commission, 1980, p. xvii). Also, relocaters are often faced with increased living costs for which compensation is generally not available. In studies of people displaced by freeway developments in Melbourne and Brisbane, a majority of "respondents complained that they were unable to procure comparable homes for the compensation they received" (Australia - The Law Reform Commission, 1980, p. 19). A number of U.S. studies report similar findings but add that frequently the difficulty results from an involuntary upgrading of housing (Colony, 1971; Buffington, 1973; Clark County, 1975; Perfater and Allen, 1976). Outright home ownership and low rentals are closely associated with long periods of residence and older people. For these people, living costs will almost invariably rise, and, unfortunately, it is just such people who are the most attached to an area and who suffer the most stress from relocation (Table 1).

No compensation is payable for certain intangible effects of compulsory relocation such as loss of support from a sympathetic socioeconomic community and possible adverse effects on the education of school children. Indeed, relocaters, in particular older residents, are often less concerned about the extent of payments than about enforced lifestyle changes and the community destruction frequently implied by acquisition. Of course, community destruction need not always occur. It may be avoided where relocaters move to new residences within their old community and in the rare cases where whole towns are relocated.

By no means are all people adversely affected by relocation. Many want to move and may view the compensation accompanying forced relocation as providing an opportunity to better themselves (Motz, 1978; O'Malley, 1978). Similarly, it is not generally known how well those who appear to be worst affected by relocation were adjusted to their original communities. It is possible, though unlikely, that relocation becomes a focal point for their preexisting frustrations and anxieties (Mogey, 1964; Motz, 1978). Also, not all relocation programs engender widespread opposition and negative feelings (Institute for Urban Studies, 1963; Niebanck, 1965, 1968; Millspaugh, 1961). Positive results also come from a recent study of Yallourn, Australia, where Wadley and Ballock (1980) found that "initial conflicts were largely overcome by the ability of an adequately financed relocation agency to tailor policies to the... population and the possibilities of resettlement environments."

Based on previous research, voluntary or compulsory flood plain relocation will encounter the least opposition if the relocaters are young, mobile, short-term residents with nonfarm occupations who have a low identification with the community or place, are of a higher socio-

economic status, have a vested interest in the projects' outcome, have recent flood experience, and see the flood problem as severe. The ideal program would have adequate finance (Wadley and Ballock, 1980), involve the potential relocaters in project planning as early as possible, avoid a lengthy decision period, be voluntary, and ensure that owner-occupiers were able to obtain equivalent replacement dwellings. Unfortunately, apart from the flood related aspects, the above description of the ideal relocater does not fit the residents of the acquisition areas under study. Thus, in such cases, and in particular where strong attachment to community or locale exists, efforts should be made to place relocaters within the same general community (Drucker et al., 1974; Fried, 1963).

RELEVANCE TO PRESENT STUDY

Most of the research reviewed above deals with response to compulsory property acquisition. It would appear, therefore, that its relevance to the present study is limited to a hypothetical discussion of the use of compulsion to acquire flood-prone land; in the voluntary programs examined in this study, the government acts like any buyer in a normal free market. In fact, the literature is of broader relevance because in many areas people have objected to voluntary flood plain acquisition schemes on a number of counts: the authority may effectively be the only buyer of property--putting it in a monopoly position; the government's aim, or at least the result of government action, is occasionally seen as one of community destruction; acquisition programs are frequently accompanied by stringent building regulations which residents fear will lower the value of their properties and discourage other buyers; and some residents misunderstand the programs and see them as compulsory.

Furthermore, and perhaps more importantly, there is some evidence that the intangible negative effects experienced by involuntary movers are similar to those experienced by people whose movement is voluntary (Butler et al., 1973).

Conclusions about the relevance of the literature on compulsory relocation would founder if the voluntary and compulsory moves were being made by two fundamentally different groups of people. In fact, the usual subjects of compulsory relocation research and the residents of the acquisition areas presently under study are very similar in that both groups consist of socioeconomically disadvantaged people.

> The occupants of the acquisition areas have been examined in terms of the poverty criteria developed by the Australian Commission of Inquiry into Poverty (1975) and other related studies. Regardless of which criterion is employed, an exceptionally high proportion of the area's residents are found to be disadvantaged. Their incomes, health, and education levels are low, as is the level and type of employment. Much of the housing and (physical) urban environment is rundown and property values are depressed (Handmer, 1984, p. 220).

The apparent preoccupation of relocation research with this section of society has itself been the subject of criticism (Jones, 1973), but it is ideal for the purposes of the present research.