

FACTORS AFFECTING INDIVIDUAL AND COMMUNITY RESPONSE TO ACQUISITION

Factors Examined

In the following sections the hypotheses developed earlier in this paper are tested. Certain other variables were examined but were not significant. Sex of respondent, for example, was not related to any other variable.

Perceived Losses and Benefits of Acquisition

The full range of tangible and intangible acquisition costs and benefits as identified by this and other studies is listed and discussed in Handmer (1984). Material on the evolution of the identified effects is also included. This section focuses on those effects expected or perceived by the potential relocaters, also referred to as their "vested interests."

Burdge and Ludke (1970, 1972) and others found that vested interest is an important explanatory variable underlying attitude to compulsory acquisition (see Table 1). Those who believe that their interests are served by acquisition are more likely to have a positive attitude towards the scheme and vice versa.

Two questions were used for the primary analyses of this issue. Respondents were asked:

- (i) how they thought they might benefit from the scheme (Question 18), and
- (ii) how they thought they might lose from it (Question 25). (Question wording for Wagga: "If leaving North Wagga is required, what, if any, problems do you think this will involve for you?").

Respondents in the Echuca and Lismore acquisition areas were overwhelmingly convinced (approximately 80% of the samples) that the schemes held no benefits for them (Table 4). Unfortunately no data on the perceived benefits of acquisition were collected for North Wagga. However, information on expected losses was available for all three sites. Only some 20% of respondents felt that acquisition would benefit them, and a similar percentage saw no losses, with the exception of Echuca West. There, virtually the entire sample (93%) foresaw personal losses from the acquisition scheme. It was quite possible, and it would have been quite

BENEFITS			LOSSES		
Benefit	%	N	Loss	%	N
No benefits	85	(165)	No losses	16.9	(31)
Reduces flood risk	7.2	(14)	Not moving	10.3	(19)
Post-acquisition use	4	(8)	inconvenient/ miscellaneous	7	(13)
Miscellaneous	3.8	(7)	cheap living	47.8	(88)
			home area/friends	18	(33)

TABLE 4

BENEFITS AND LOSSES FROM ACQUISITION PERCEIVED BY POTENTIAL RELOCATORS
Combined Lismore and Echuca data

reasonable, for people to see both gains and losses. This might have had the effect of reducing the apparent overall negative response to acquisition if, for example, many of those who saw losses also felt they would gain something. However, with most expecting losses and no benefits at all, the outlook of respondents is clearly pessimistic.

The dominant reason for this perspective is concern over the loss of affordable accommodation. This was especially the case among those renting, and the results here are closely associated with those for persons who saw their financial position as an important locational constraint. Losing affordable accommodation was the primary concern of two-thirds of those who felt economics kept them in the flood plain and

concerned only one-third of those for whom economics were unimportant. Similar results were obtained when the question of economics in the original location was examined by perceived loss. Table 5 illustrates this association for both owners and renters for the combined Echuca and Lismore acquisition samples.

In the cross-tabulation with attitude to acquisition, only the question of expected benefits proved to be of value. This association was the strongest found among the variables examined (see "Discussion and Conclusions"). Virtually all respondents who are opposed to acquisition see no benefits in the scheme. The relationship between acquisition attitude and expected losses from the schemes was not significant.

How might you loose from acquisition	Is cost important in staying here?	
	YES	NO
WON'T LOSE	18.3% (18)	37% (22)
LOSE (miscellaneous)	14% (14)	31.5% (19)
LOSE cheap housing	69.7% (67)	31.5% (19)
Chi-square significant at .05		

TABLE 5

IMPORTANCE OF COST IN LOCATION AND PERCEIVED LOSS FROM ACQUISITION
Percent of Cost Category (Numbers of Interviewees in Brackets)

Flood Factors

Recent and severe flood experience has been shown to be a powerful motivator for flood adjustment adoption (Waterstone, 1978; Smith and Penning-Rowell, 1982). It may also be important in forming negative attitudes to flooding and positive attitudes towards relocation (James, 1974; Time, 1981).

Key questions for assessing flood attitudes or perception are expectation of future flooding and perception of flood severity (Kates, 1962). Pessimistic responses to these questions are likely to indicate support for relocation (O'Malley, 1978; Schweri and Willigen, 1978).

Data from a number of sources were used to examine the following hypotheses that attitude to acquisition is related to flood risk, experience, and perception. These factors are not independent, especially experience and perception. However, they are examined separately because there is considerable debate about the precise nature of the relationships. The hypotheses are:

- (i) support for acquisition should increase with flood risk.
- (ii) those with severe flood experience and whose routine is affected by flooding should be more positive towards the scheme. Interviewees in the second part of the Echuca survey, which was conducted immediately after a major flood, should be more supportive of acquisition, and
- (iii) those whose flood perception is low, i.e., who do not see flooding as a local problem, are expected to oppose the scheme.

Flood Risk. Evidence for the importance of exposure to flood risk comes from two sources: the appropriate Munro questionnaire responses matched up with a flood risk data base for individual properties and overall community attitude to acquisition ranked by the flood risk of each study site. The flood risk data base contains the ground and floor

heights of all developed properties in the Lismore flood plain (lower levels are subject to more frequent and deeper flooding). It should be noted that exposure to a flood risk, even if of long duration, does not guarantee flood experience.

Munro asked a sample of all Lismore flood plain residents whether they supported the concept of a resettlement scheme for badly flood-prone residents without nominating specific areas such as North Lismore. Table 6 shows that for owners increased support for acquisition is associated with increased flood risk. Results for renters are not clear cut. A possible explanation for this may lie in the high turnover of rented properties. As a general trend, the more flood-prone the dwellings, the more rundown they become. It is possible then that the most flood-prone houses have the highest turnover rate. If this is the case, a relatively large proportion of renters would not have experienced the

GROUND HEIGHT (metres)	FLOOD RISK (approximate recurrence interval)	PERCENTAGE in each height class supporting the scheme
6.5-9	<1:2	100% (6)
>9-10	<1:3	88% (51)
>10-11	<1:4	81% (190)
>11-12	<1:10	69.5% (217)
>12-13	<1:100	63.8% (94)

TABLE 6

SUPPORT FOR RESETTLEMENT BY GROUND HEIGHT AND FLOOD RISK
(Lismore owner-occupiers only. Figures in brackets are numbers of interviewees.)

1974 or 1976 floods and could be expected to have a lower concern for flooding than adjacent long-term residents.

The community-wide data collaborate the Munro results, with owner-occupiers in the most flood-prone area, North Lismore, being most supportive of acquisition; while those in the least flood-prone area, North Wagga, are the least in favor of acquisition. In addition, the more flood-prone interviewees were most likely to cite floods as a reason for scheme support and vice versa.

Flood Experience. Unfortunately the Lismore data on severity of recent flooding (in 1964) by attitude to acquisition are inconclusive.

However, a clear demonstration of the importance of recent flood experience comes from a comparison of Echuca West interviews conducted before and just after the 1981 flood. In an area where considerable opposition to acquisition exists, support for the scheme in the post-flood sample increased to nearly double that of the earlier survey. The change in attitude was probably greater than the figures in Table 7

SHOULD ACQUIRE?	PRE-FLOOD		POST-FLOOD	
YES	18.5%	(5)	45%	(10)
NO	77.5%	(21)	53%	(11)
DON'T KNOW	4%	(1)	6%	(1)

TABLE 7

ATTITUDE TO ACQUISITION BEFORE AND AFTER THE 1981 ECHUCA FLOOD

indicate because a number of people who had sold or were selling their houses to SR & WDC as a result of the flood were not in residence and were not interviewed. These people would almost certainly have been scheme supporters.

Flood Perception. Perception of the severity of the local flood problem was closely correlated with attitude to acquisition (Table 8). In fact, the variable was the second most powerful predictor of attitude (after vested interests) and explained some 17.6% of the variance (see Table 13). Thus, in communities where there is widespread recognition that flooding is a local problem, support for acquisition is likely to be strong. Only Lismore owners who knew about the scheme were used in this analysis as the data for this group are complete.

Should acquire?	Flood perception	
	HIGH	LOW
YES	60.9 ₍₇₀₎	39.5 ₍₃₀₎
NO	39.1 ₍₄₅₎	60.5 ₍₄₆₎
Chi-square sig. .01		

TABLE 8

ATTITUDE TO ACQUISITION BY FLOOD PERCEPTION

Figures are column percentages.
Numbers of responses are in brackets.

Attachment to Community

General. A major group of acquisition area people--the older, longer-term residents, the "stayers"--are strongly attached to the community (North Wagga), place (Echuca West), or a mixture of both (Lismore). This has been established by analysis of their demographic characteristics and questionnaire responses in Handmer (1984). Factors important in community attachment identified from a review of the literature are summarized in Table 9. An earlier study established that by any commonly employed poverty criterion, the acquisition area residents are poor or socioeconomically disadvantaged (Handmer, 1984; see "Relevance to Present Study," above).

Degree of attachment to community or place has been found to be an important, if not the critical, demographic variable influencing attitude to compulsory relocation (Table 1). It is expected, given the similarities between the subjects of the compulsory relocation studies and the residents of the case study area, that the strongly attached group will oppose relocation even of a voluntary nature.

In the following paragraphs, factors important in the degree of attachment to community are examined for their influence on expressed attitude to acquisition.

Housing Factors. Other work has shown that the greater the degree of property investment in both symbolic and monetary terms, the greater the degree of attachment to place and resistance to relocation (Table 1). A difference in attitude, therefore, is expected between owners and renters. Because renters generally have a low degree of economic and symbolic property investment, it is likely that they will be less motivated to remain and will support acquisition. Conversely owner-occupiers,

FACTORS	COMMENTS AND REFERENCES
Length of Residence	Longer residence time stronger attachment: Colony 1971; Adler & Jansen, 1978; Hallberg & Flinchbaugh, 1967; James, 1974; Motz, 1978; USNERBC, 1976; Perfater & Allen, 1976.
Age	Older people more attachment: Buffington, 1973; Colony, 1971; Motz, 1978; USNERBC, 1976; Perfater & Allen, 1976; Shields, 1975.
Life Cycle Stage	Families are more likely to move at certain stages in their life cycle (though old age is more important), at marriage, and as the family expands and contracts. Thus community attachment may vary: Bourne, 1981; Motz, 1975. Rossi, 1980
Education Level and Occupation Type	Those with higher education levels and higher status occupations are less attached or rather are more mobile residentially: Bourne, 1981; Colony, 1971; Effrat, 1974; Motz, 1978; Perfater & Allen, 1976; Shields, 1975. Burdge & Ludtke 1972, consider that in general socio-economic variables are not very important in water resources planning. However, Shields, 1975, is probably 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 the community level, ability to organise. A further point related to occupation is that those whose livelihood is closely associated with a particular place such as farmers will often identify strongly with the locale: USNERBC, 1976; NSW WRC, 1980; Shields, 1975.
Family History	Ancestral ties will strengthen identification with the locale, and community if relatives still live in the area: Motz, 1978; TVA, 1972.
Social Interaction	The number of friends and relatives in the community and the frequency of interaction with them is positively associated with level of community attachment: Bourne, 1981; Burdge & Ludtke, 1972; Motz, 1978; SKP & MSJKY, 1979
Tenancy Status	Renters are more residentially mobile: Bourne, 1981; and often less attached to the community.
Area/Suburb Type	Dormitory suburb residents often have a low community attachment: Adler & Jansen, 1978.

TABLE 9

DEMOGRAPHIC FACTORS ASSOCIATED WITH STRONG ATTACHEMENT TO COMMUNITY

and in particular those who inherited their property, (O'Malley, 1978), are likely to want to stay.

Occasionally low rents are associated with older people and longer terms of residence, but this does not appear to be the case in the study sites. The proportion of accommodation rented is low in Echuca West and North Wagga at about 10%; while in the Lismore acquisition areas, where the proportion of dwellings rented reaches 40%, the renters are relatively young, mobile, short-term residents.

Renters are substantially more supportive of acquisition than owners (Table 10). In fact most renters (70%) feel that they would not lose from having to move or would find it only a nuisance. Those who felt they would lose generally cited money difficulties related to finding

Should acquire?	Tenancy status	
	OWNER	RENTER
YES	47.7 (62)	61.7 (37)
NO	52.3 (68)	38.3 (23)
Chi-square sig. .1		

TABLE 10

ATTITUDE TO ACQUISITION BY TENANCY STATUS

Figures are column percentages.
Number of responses are in brackets.

alternate low-cost accommodation. It should be noted that in the areas under investigation the authorities attempt to ensure that people are not forced from their homes.

At the opposite end of the symbolic property investment spectrum should be those who inherited their dwellings. This is a sizeable group, especially in North Lismore where some 25% of dwellings are owner occupied. However, inheritors are less certain about their attitude towards acquisition than other occupant groups, and their level of scheme opposition is similar to those of the rental group and significantly lower than that of the non-inheritor owner. Unlike renters, on the whole inheritors did not consider themselves trapped by cost but were concerned about the flood problem. The unexpected results may be a reflection of the slightly poorer and more flood-prone dwellings occupied by inheritors, particularly as other parts of the questionnaire tend to demonstrate their degree of attachment to the area. The absence of compulsion in the scheme might also be important.

A number of alternative explanations for the higher degree of renter support for the scheme were examined. As the most flood-prone areas in Lismore contain the highest proportion of rented dwellings, it follows that the severity and frequency of flooding may explain renter support. Support for the resettlement scheme was found to decline with decreasing flood risk, but for the rental subgroup the decline is erratic and does not appear to be significant (see "Flood Factors"). This itself is probably a result of the high turnover rate of rental properties and the consequent low level of flood experience among residents. Another possibility is that if renters are less interested in their area, they may not be as well informed as owners about the acquisition scheme and thus hold

different views. The knowledge question is explored below, and as expected, renters are less aware of the scheme's existence. However, while in the case of renters awareness of acquisition increases scheme support, the opposite occurs among owner-occupiers. As renters are relatively unaware of the scheme this relationship should reduce the proportion of the rental group who support acquisition. Therefore, knowledge is not seen as an important factor underlying scheme support by the renter group.

Another potentially important factor is economics. Other work has established that a very high proportion of renters would prefer to leave acquisition areas because of floods but find themselves financially unable to do so (Handmer, 1984). Many of these people may support acquisition, believing erroneously that it will help them find alternative, affordable flood-free accommodation.

In summary, tenancy status is an important variable underlying attitude to acquisition, with low levels of property investment associated with increased acquisition scheme support and vice versa. An anomaly in this pattern is that those who have inherited their property are fairly ambivalent about acquisition. Finally, in each study site the overall level of scheme support is broadly related to the site's tenancy makeup, with Lismore being the most supportive and having the highest proportion of rental accommodation and the residents of the other sites being more likely to oppose acquisition--in particular residents of North Wagga where outright home ownership is highest.

Length of Residence. Although length of residence is a useful indicator of attachment to place or community (Table 1), the variable has not generally been of value in predicting attitude to acquisition (O'Malley,

1978; Schweri and Willingen, 1978). Results from Lismore confirm these findings; the association between attitude to acquisition and length of residence is not significant.

Aspects of Acquisition Program Procedures

Organization of Section. Certain aspects of program development and implementation have been found to be important in securing public support for acquisition. As derived from the literature these are set out in Table 1. The review of the case study sites' acquisition programs raised a number of similar points. The issues discussed are:

- (i) decision time,
- (ii) public involvement in program planning and implementation,
- (iii) knowledge of the program, public relations, and communication flow, and
- (iv) property valuation procedure/scheme incentives.

Decision Time and Public Involvement. Lengthy periods of uncertainty for the residents while the decision to acquire is being made may serve to increase local resistance to the scheme. Although uncertainty may lead to gradual neighborhood deterioration and abandonment, those who remain may become increasingly determined to stay. The study sites illustrate this problem. Whereas, the decisions to acquire in Echuca and Lismore were relatively quick, property purchase in North Wagga has proceeded in a haphazard fashion for nearly three decades. Over time, opposition to the scheme there has increased and become more organized and effective.

Critical factors in the success of that campaign against the scheme and regulations have been the organization and leadership of the local residents association, which claims members in half the village house-

holds (SKP & MSJKY, 1979), and the strong sense of community the area is universally acknowledged to have. Executives of the association and council officers identified the long period of uncertainty during which "residents were deprived of their rights" (Knott, 1981-I) as a major equity issue and called for a speedy and firm resolution of the problem.

There is evidence to suggest that an absence of public involvement early in the planning process may lead to problems similar to those associated with lengthy decision times because low levels of communication between the residents and responsible authority increase rumors, misinformation, and anxiety (e.g., Smith et al., 1980; see Table 1 for other references). In no site could public involvement be said to be high at the time of the initial acquisition decision; the residents were not involved in the early planning stages in a consultative way. Meetings between the residents and authorities have been held at Echuca and Wagga but generally have not been held to seek residents' views. Rather, they have been called to explain decisions already taken. In Echuca this caused considerable resentment among "stayers" and has also led to some misinformation despite the best efforts of the state and local authorities (see "Echuca West" above). Wagga City Council has conducted surveys in North Wagga to obtain residents' views on alternative planning strategies for the area (SKP & MSJKY, 1979: earlier surveys are referred to by Rawlings, the town planner, in Wagga Wagga City Council et al., 1971; and in Livingstone, 1975), but these have been subsequent to the 1956 decision to zone the village non-urban and to commence acquisition and were a reaction to public pressure rather than a coordinated part of the planning process.

Undoubtedly cases exist in which both the public interest and successful program implementation are best served by a very low key approach to participation. This appears to have worked well in Lismore, though other local circumstances may be responsible for program success--in particular the recognized severity of flooding, the lack of sense of community, the obvious and preexisting decline of the areas, and the ability of the original program coordinator, John Wade, to reassure potential relocaters.

On the other hand, the costs of ignoring the public view may be great, especially when it is strong as in North Wagga. Therefore, public participation in the planning process increasingly is becoming a legislative requirement. Victorian legislation now provides for the use of "Consultative Committees" which formally involve local residents in the planning process, though their use is not mandatory. The Dandenong Valley Authority (DVA) in that state has involved the public in decision making for many years and believes that this is a major factor in its success in securing public support for its programs (Thompson, 1981). New South Wales is about to establish local flood plain management committees similar to those in Victoria.

Unfortunately, involvement still tends to be reactive, and, apart from the Victorian "Committees," to date little effort appears to have been made to take account of various public views from the commencement of project planning. Involvement after major decisions have been made, typical of many major inquiries, may reduce the whole procedure to a legitimization exercise (Bain, 1980).

After a recent review of their public participation exercises, the NSW Department of Main Roads concluded that it was not possible to formu-

late any general guidelines (Watson, 1980-I). Clearly, determining what constitutes the "public interest" is difficult when the public cannot agree on values. Arrow and others have argued that where major social choices are concerned, reconciliation of all viewpoints is impossible (Arrow, 1950; Kelly, 1978). Certainly, attempts at consensus where widely divergent attitudes exist are often doomed to failure. In these circumstances effort is better directed towards achieving the consent of those opposing the program. For example, many long term residents would never directly support the destruction of their neighborhood but may be content to allow those who want to sell to a voluntary scheme to do so. This is, in effect, what has occurred in Lismore and Echuca.

Finally, some general points emerge from the study sites and literature. To reduce feelings of frustration and alienation, participation exercises should commence before major planning decisions are made. They should seek out and attempt to defuse potential objections rather than simply react to strong public feelings. Concern is often expressed that those at public meetings, those who make submissions and so on, do not truly represent the affected public. Grima and Wilson-Hodges (1977) dispute this view, citing examples with no significant differences between viewpoints expressed in surveys and public meetings. In any case, other techniques, including surveys and local "committees" or panels, may help to overcome such bias. However it needs to be recognized that a vigorously held minority viewpoint may be important and may constitute a major obstacle to successful implementation, though in an entirely voluntary program this is less likely to be the case.

Knowledge of the Program, Public Relations, and Communications Flow.

Knowledge alone is often not very important in changing attitudes and

behavior; indeed the majority of public education/information programs do not appear to have significantly influenced public opinion (Hyman and Sheatsley, 1947; Roder, 1961; Kates, 1962; Handmer and Milne, 1981; Illinois Dept. of Transportation (IDT), 1980; McDonald et al., 1982). This is the case in programs as diverse as those concerning natural hazards, crime prevention, seat belts, and smoking (IDT, 1980).

Nevertheless, it has been established that, generally, very low knowledge levels are associated with higher levels of uncertainty, anxiety, rumors, and misinformation about relocation programs (Drucker et al., 1973; Drucker and Smith, 1974; Smith, 1970). Thus the importance of a public relations program and two-way communication has been stressed to minimize anxiety and consequent negative reactions to a project (Buffington, 1973; Colony, 1971; Perfater and Allen, 1976; and Ralf M. Field, 1981).

When examining the role of knowledge in attitudes to acquisition at the study sites, it must be borne in mind that only in Echuca West had any real attempt been made to inform residents of the decision to acquire property and that in this area everyone was aware of the scheme. Unfortunately, therefore, much of the following analysis is restricted to Lismore--it being the only site with suitable questionnaire data. Some 25% of the Lismore acquisition sample--mostly renters--had not heard of the scheme (Table 11). Owners are expected to be more aware of the program because of their greater investment and interest in the property and because many renters are short-term residents.

Tenancy	Knowledge of scheme?	
	YES	NO
RENTERS	(36) 64%	(20) 36%
OWNERS	(95) 82%	(21) 18%
Chi-square significant at .01		

TABLE 11
KNOWLEDGE BY TENANCY

Should this area be acquired?	Knowledge of the Scheme?	
	YES	NO
YES	(65) 76%	(21) 24%
NO	(41) 73%	(15) 27%
Chi-square not significant		

TABLE 12
KNOWLEDGE AND ATTITUDE TO ACQUISITION

Lack of knowledge does not appear to have affected overall attitudes towards acquisition (Table 12). Curiously, the effects of knowledge were more profound on renters than owners. Renters were much more likely to support the scheme if they were aware of it; while owner-occupiers' attitudes were largely unaffected by knowledge of the scheme's existence.

The main sources of knowledge about the scheme in Lismore were newspapers, and neighbors, friends and relatives. The Lismore Council was not an important source. Less than 10% of those surveyed claimed to have heard of the scheme through public officials. This is in contrast to the situation in Echuca West where the local council and SR & WSC were the major informants (60% of the sample) through a public meeting and a letter posted to every resident. Nevertheless, there was considerable misinformation about the Echuca scheme (See "Echuca West"), whereas Lismore residents generally realized that the scheme was voluntary and offered market value.

Property Valuation Procedure/Scheme Incentives. Property valuation has emerged as an important issue in voluntary flood plain acquisition programs both overseas and in the Australian study sites. The issue arises because property in the more hazardous areas is frequently of very low value, and residents find that the market prices offered by government authorities are too low to enable them to buy replacement housing. Of course, as there is no compulsion in the proceedings and the resident does not have to accept the government's offer, there may appear to be no grounds for complaint. However, for the reasons outlined earlier ("Relevance to Present Study"), government authorities are frequently not like other property buyers, and many residents feel that they have some moral right to replacement housing.

The questionnaires asked respondents to state the incentives that would persuade them to sell their property to the scheme. After this open question they were asked to indicate how acceptable or unacceptable they found various specified incentives. The Wagga survey did not contain an open question first. It asked interviewees to indicate their preferences for various options and then asked how much money would be adequate compensation for relocation--the "consumer surplus technique".

At the other two sites, over half the interviewees volunteered "replacement housing" in response to the incentives question. A further third of the respondents said that nothing would persuade them to sell. Although attachment to the area is important to many of those who do not want to sell, the removal of economic constraints through the prospect of reasonable alternative housing would enable some to realistically consider relocation. To provide a realistic option, the individual requirements of the residents would need to be taken into account--for example, the need of many people to remain in the same general neighborhood and to be able to keep their pets. Among the non-acquisition, flood-free and flood plain residents interviewed there was virtually no opposition to the scheme, but there was a strong emphasis on the need to provide relocaters with replacement housing.

The argument is often advanced by local councils that it is immoral, if not illegal, to prevent, without compensation, the development of land if the zoning at the time of purchase would have permitted it. Frequently this is extended to include situations where the owner might reasonably have expected that the zoning would be changed to permit development. Furthermore, compensation generally takes the form of purchase of the property by government, and it is often implicit that the purchase

price should include allowances for the loss of speculative profits, rates paid, and so on. It seems quite inequitable that owner-occupiers are not entitled to the same consideration when regulations prohibiting any further development, including renovations and extension, are applied to their properties.