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Farmer ambivalence to rural land conversion in Australia and America: Regulatory implications

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ABSTRACT: Conversion of agricultural land to urban uses poses continuing problems in Australia and in the United States. This study reports data on Queensland farmer responses to government planning, comparing them with a study in Iowa. Farmers in both countries prefer regulatory models that stress voluntary compliance rather than enactment and enforcement of law. Farmers' ambivalence about controlling land conversion is based on both traditional agrarian beliefs and rational economic interest. In Queensland, entrepreneurial farmers, committed to farming as an occupation rather than as a style of life, are most supportive of government action to control rural land conversion.

As urban centers grow, agricultural land is increasingly attractive to developers. Farmers near expanding urban centers express concern about the loss of good farmland, but they are motivated to sell because of high land values and the uncertain future of commodity prices. Rural land conversion is an example of conflict between short-term economic interests of individuals—in this case, farmers—and society's general need to preserve farmland for future generations. Government land use planning and regulations are designed to influence farmer decisions to sell, but enforcement is a continual problem. Farmers are ambivalent about public programs that may restrict their proprietary rights.

Although American and Australian farmland has been lost to urbanization, this is seen more as a local problem than a national problem (13). Neither country has a comprehensive national policy to address the issue of farmland diversification emphasizing the political importance of local farmer opinion. Planners and researchers disagree about its seriousness, and farmers differ over how much planning is necessary to deal with

rural land conversion, what level of government should have the most authority, and whether farmers should share land use decision-making with government (4, 13, 16).

Here, we present data on Australian (Queensland) farmers' attitudes to rural land use planning and their ambivalence about the government's planning role. These data are compared with the results of studies in the United States (5, 6) and discussed in the context of their importance for understanding the success or failure of government programs to conserve productive rural land.

Agrarian ideology

Farmers in both countries agree that farmland is intrinsically valuable and that rural life is natural and good (9). Agriculture developed differently in the two countries, of course, but farmers have similar beliefs about the rights of ownership. Government involvement in farming is acceptable as long as it does not infringe on property rights, including the right to sell to whomever they please for whatever purpose (7, 12). Arguments that the rights of property are ultimately derived from their tendency to promote the public good strongly support such beliefs (3, 11). Ironically, such views can lead farmers and others to devalue rural land as they directly challenge the basic

agrarian concepts that farmland and soil are intrinsically valuable and that agriculture is the land's highest purpose.

Rational farmers and regulation

Public rural land use law and policy are central to farmer decision-making. Farmers may accept them as legitimate constraints on self-interest, or as perverse intrusions, or they may simply feel that they can ignore these laws and policies because governments cannot or will not enforce them. Australian governments have been guilty of excessive timidity in enforcing legislation (2). In general, though, land use planning is a political reality and "the question is not whether, but only when, the use of private property may be restricted in the public interest" (2). How farmers react to planning and agency initiatives demonstrably affects how and when agencies decide to enforce law and policy. But predicting how farmers will respond to land use planning is often difficult because it has a "dual aspect" for them, thereby establishing a basis for farmers' ambivalence to both government and planning (13).

International research shows farmer variance to government land use restrictions; their reactions range from active resistance, to ambivalence, and support, when it is in their economic self-interest. A study in Iowa concluded, "Farmers continue to espouse values that are being eclipsed in the land use planning movement, such as the sanctity of private property rights and reliance on the free market to determine land uses" (5).

McDonald and Rickson (13) found that Australian farmers are ambivalent about land use planning. They strongly support government regulations prohibiting farmland conversion to other purposes, but they also reject the idea that public interests should be given a higher priority than owner economic self-interest in deciding land uses. Farmers themselves often are inconsistent about these two values, as the following statement indicates: "Land use planning is vital to ensure that productive land is preserved for the future of all Australians. I believe a farmer should have the right to sell his farm to the highest bidder."

Rural ideology contains contradictory elements associated with rural land use and the value of rural lifestyles. Is conservation more important than the freedom to sell land to the highest bidder? Should one stay with the "good and natural life of farming" even though a better income could be earned in another occupation? The ambivalent attitudes of farmers to land use problems and land use planning can be partially understood in this light (13).

Farmers are "rational" within the context of agrarian ideology and market forces.

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Farmers often define rural land use planning and government legislation as serving public interests (farmer and nonfarmer) in preserving agricultural land. With the same ideology, they can see government action as unduly interfering with their intrinsic decision-making rights and the individual economic or parochial interests of rural landowners. Farmers may identify with both (13), reject both, or accept one and reject the other. The key questions are these: Do data support the concept of a duality in farmers' attitudes toward land use planning by government? What is the importance of a duality for land conservation and planning and resolving conflicts between private and public interests in land use? Are farmers who accept both that rural land conservation is important and that government performs a necessary role willing to relinquish some decision-making autonomy about the use and disposition of their land?

The study area and methodology

Moreton and Boonah Shires are contiguous shires in southeastern Queensland. The shires are located close to Brisbane and Gold Coast City. Concentric urban growth has occurred around these nuclei and brought development for residential growth into conflict with traditional farming activities. Between population censuses in 1976 and 1981, the population of Moreton Shire increased 52 percent, whereas Boonah Shire declined 2.1%. Importantly, employment in agriculture halved over the last 20 years in Boonah Shire, now constituting 30% of the work force. In Moreton Shire agricultural employment has fallen 38%, constituting 6% of the work force during the same period. The proximity of the shires to urban centers, the vagaries of markets, and farm costs have meant that many farmers (52% of those surveyed) earn some income from off-farm work.

Land values have risen markedly in recent years because of urban sprawl and speculative land purchases. Total farmland has declined in the past decade, but individual farm size has increased as the remaining farms are rationalized. Gross value of agricultural production has increased 4%.

In Queensland, decisions about land use planning and bodies set up to administer rural land use are the responsibility primarily of local and state governments. Local government has limited control in terms of zoning land use and setting subdivision sizes. In Moreton and Boonah Shires, rural interests have dominated local governments. Most of the laws, regulations, and bodies that affect rural landholders are at the state level. The federal government has little direct influence, although it is responsible

for developing agricultural trade and manufacturing policies.

Sampling. A random sample of 500 rural landholders was drawn equally from the Moreton and Boonah Shires. Only landholders who received income from the commercial sale of farm produce were sampled.

The questionnaire was designed to include questions asked in the Iowa survey (5, 6), and it followed the total design method of Dillman (10). Questions that were not applicable to the Queensland situation or were poorly understood in the pilot survey were omitted; where differences occurred in the terminology used by Queensland and Iowa farmers, appropriate changes were made. The return rate was 72.4%. A 50% return rate was reported in the Iowa study (5, 6).

Table 1 presents the questions asked in common of the two studies and the Queensland farmers' responses to them. Four of the five facets of land use planning covered in the Iowa study were covered. The dimensions of land use planning addressed in the Australian study were: (a) attitudes based on use of agricultural land, (b) attitudes about land use planning, (c) perceived need for government agencies, (d) the level of government most appropriate for land use planning, and (e) how much decision-making authority farmers were willing to give to government.

Two scales refer, respectively, to preservation of rural land and rural lifestyles. One measures farmer commitments to preserving agricultural land; the second measures commitments to preserving "rural life." Cronbach's alpha was used to test for scale unidimensionality. Attitude items in the first scale include (a) "the government should prevent the ownership of cropland by non-farm corporations," (b) "the state government should keep a register of foreign ownership of farming land," (c) "the government should prevent foreign ownership of agricultural land," (d) "cities should restrict their future growth to existing boundaries," and (e) "land that is best suited to agriculture should not be used for any other purpose."

For Australian farmers, government action is a component of a rural land preservation scale and is consistent with the comprehensive role of government in Australian agriculture. Australian farmers would assume that saving rural land inevitably involves government. Ironically, in comparing government subsidies for agriculture with other Western countries, Australian farmers are among the least subsidized. American farmers have generally higher levels of price support for grain crops than Australian farmers do. How Australian farmers see government's specific decision-making role in how they use or dispose of their land, however, is

a different dimension of the problem.

Items in the second scale are more consistent with traditional notions of agrarianism. Through an item analysis, two were fundamental to the scale: (a) "agriculture is the most basic occupation in our society, and almost all other occupations depend on it," and (b) "even if his income has dropped to a low point, a farmer should try to stick it out so his children can grow up on a farm." Farmers responded to each item in the two scales on a five-point basis from "strongly disagree" to "strongly agree."

Four background variables were recorded in both studies. Age in the Queensland study ranged from 20 to 96 years (19 to 81 years in Iowa). Total family income, before taxes, over the last 3-year period ranged from under \$5,000 to more than \$40,000 (\$5,000 to \$40,000 in Iowa). Farm size was recorded but not used in the study because of the diversity of cropping and farm type. Income, in this analysis, is the best measure of production scale. Education was measured in terms of the highest level of education completed. This ranged from primary school to tertiary level (elementary school to university in the Iowa study).

Farmer acceptance of planning

The studies show that, overall, Queensland and Iowa farmers support rural land use planning by government, but they do so in a highly selective and perhaps self-interested manner. The Queensland results suggest a duality in farmers' feelings about land use planning. They are favorable to planning, but do not uphold government regulations to control conversion of farmland to nonfarm uses. Most Queensland farmers, by far, say they should be free to decide the uses of their land, and if land use control programs are necessary, they should be voluntary. If government were to have an important role, however, the farmers have specific ideas about the nature of that role and the responsibilities of each government level.

Finally, factors such as education reduce somewhat the parochial nature of Queensland farmers' attitudes toward government land use planning. The more education farmers have, the more likely they are to favor federal controls over activities at the local, regional, or state level. Farmers' favorableness to land use planning is found to be a function of their level of commitment to rural land preservation and has little, if any, statistical association with Queensland farmer identification with traditional rural lifestyles. The latter finding is significant because it suggests that a strong commitment to preserving rural land resolves for farmers any ambivalence they might feel about government land use planning. The more

committed farmers are to land preservation, the more likely they are to favor government programs to sustain agricultural land.

Data. Seventy-nine percent of Queensland farmers (77% in Iowa) are either mildly or very favorable toward land use planning (Table 1, item A). The Iowa data were reported by Bultena and associates (6). As noted, the study questions were comparable. More Queensland farmers said they were very favorable than did Iowa farmers (37% compared to 29%), and opposition to land use planning in general was low (16% in Iowa, 18% in Queensland). For half of the farmers in Queensland (Table 1, B.1), favorableness toward land use planning extends to support for establishing permanent government bodies (49% in the Iowa study).

Data from both studies illustrate how selective farmer support for government land use planning is—selective regarding the role of government and at what level. Of farmers who said that permanent government bodies should be set up for land use planning purposes, those at the federal level were least favored by both Queensland (13%) and Iowa farmers (7%) (6). Although both areas show most support for local government (52% in Queensland, 73% in Iowa), the division is less marked in Queensland. The difference is translated into support for regional authorities (32% Iowa, 43% Queensland) and, in particular, the state level (26% Iowa, 45% Queensland).

Representation of rural/farm interests is a fundamental plank of the Queensland government. National Party rule in Queensland over the last 30 years has been characterized by staunch advocacy of farmers' interests against city people, environmentalists, and the federal government. This pattern is evident also in the other Australian states, where the party has helped to create a split between cities and country people as natural to politics and life generally; the position traditionally has been that the rural interest is the only legitimate Australian interest and that rural or "outback" Australians are the only "real" Australians (12).

Farm backing for state government planning bodies is seen in item C of table 1, where, for most land use planning activities, Queensland farmers prefer a state government role. This reflects the long-standing status quo of responsibility within Queensland, state parochialism, and the need to recoup tax dollars from a (perceived) centralized federal government. Iowa farmers show more support for local authorities (6). Aside from funding, both groups hold federal planning activity in low regard.

Even though government planning has general support, Iowa and Queensland farmers are opposed to government mandatory

Table 1. Queensland farmers' attitudes toward land use planning.

A. Favorableness to land use planning					
Taking into account all of the factors involved in land use planning, which of the following statements best describes your feelings about it?					
	Number	Percent			
1. Very opposed	29	9			
2. Mildly opposed	28	9			
3. Mildly favorable	130	42			
4. Very favorable	114	37			
No response	9	3			
Total	311	100			
B. Need for governmental action					
(1) Should land use planning be the responsibility of a permanent government body (board, commission, or department)					
1. No	123	40			
2. Yes	157	50			
No response	31	10			
(2) "If yes, at what level would you like to see such land use planning groups formed?"					
	No	Undecided	Yes	No response	
	(percent, N = 157)				
Local government	19	7	52	21	
Regional government	21	8	72	28	
State government	24	10	44	20	
Federal government	41	7	13	37	
C. Locus of program responsibility/role of agencies					
Do you think the following land use planning activities should be the major responsibility of LOCAL, STATE, or FEDERAL government?					
	Local	State	Federal	Undecided	No response
	(percent, N = 311)				
Final approval of land use plans	44	39	4	5	6
Enforcement of land use regulations	38	40	8	7	7
Preparation of guidelines for land use planning	30	49	9	5	7
Research on the nature and extent of land use problems	24	50	12	6	6
Public education about land use problems	21	55	13	4	7
Funding of land use programs	7	47	32	5	8
D. Preferred locus of decision making					
Which one of the following best reflects your views on the conversion of farmland to nonfarm uses?					
	Number	Percent			
1. Each farmer is free to decide	132	43			
2. Group decision	7	2			
3. Voluntary programs	114	37			
4. Government regulations	51	16			
No response	7	2			

"control" of rural land use planning (item D). If conversion of farmland is to be prevented, farmers strongly prefer voluntary programs to government control. In the Iowa study, 92% rejected this alternative (6), and 84% of Queensland farmers felt this way. In the Queensland shires, 43% of the farmers supported free, individual decision-making about land use and its disposition.

Farmers in Queensland markedly rejected decision-making by groups (2% in favor), as compared to Iowa (27%) (6). The diversity of farming activities in the Queensland area (beef, grain, dairy, horticulture), the age range (20-91 years), the variety of commitment to farming (extent of off-farm work), and range of farm size and income suggest a heterogeneity in the farming community that may be working against group decision-making. In the Queensland study, 15% of farmers, compared to 8% of Iowa farmers (6), were in favor of the government

instituting laws to "...ensure that farmland is not converted to nonfarm uses." Clearly, Queensland farmers prefer either that farmers be completely free to decide independently the uses of their land or, if government were to take initiative, it should develop voluntary programs (37% of Queensland farmers agree) and not laws.

In summary, for many of the items measured, the trends shown in the Iowa study (6) were also found in Queensland. General support was shown for land use planning and for the active role of local and state agencies that have been closely identified with farmers' political and economic interests. The Iowa and Queensland studies found general consensus and favorableness to land use planning, but farmers were deeply divided as to how decisions should be made or programs implemented. In attempting to explain these differences, farmers' responses were correlated with selected attitude scales

on government land use planning.

Correlates of farmers' attitudes. The correlation of socioeconomic variables of age, education, and income with attitudes about land use planning were similar in the Iowa and the Queensland studies (Table 2). Cor² relations from the Iowa study are included in table 2. The Iowa study concluded that land use attitudes were largely independent of social and economic profiles (5, 6). In Queensland, the variable most consistently associated with attitudes was educational level. This is particularly evident in item C (locus of program responsibility): the higher the education, the more likely are farmers to prefer that the federal government have more responsibility than local government for program implementation. A negative correlation ($r = -0.25$) in item 2B between educational level in Queensland and support for local government action illustrates the point. There is a corresponding, positive correlation in item 2B between educational level and support for federal agencies by Queensland farmers ($r = 0.17$).

Education, a much more decisive variable in Queensland than in Iowa, was the most important Queensland variable for predicting land use attitudes. The more highly educated farmers clearly are less parochial in their attitudes toward program implementation, favoring programs by state and federal agencies more than local programs. More highly educated farmers may recognize the resources available at the state and federal levels (professional expertise, funding,

research) that local agencies do not have.

Both studies showed older farmers to be less supportive of federal level responsibility for funding programs and for public education about land use problems. Older Queensland farmers were more likely to support research at the federal level, than Iowa farmers. In Queensland, older persons were more supportive of individual freedom in decision-making, while young farmers wanted more government intervention. This relationship was not found in the Iowa study.

Agreement was found in the results of the two studies on the education variable (Table 2). The sharp division among farmers on the need for forming permanent government agencies is partly explained by educational level. Better educated farmers more strongly supported the formation of permanent agencies and were more favorable to a range of functional programs at the state and federal levels—that is, programs for research, public education, preparation of land use planning guidelines, and enforcement of land use regulations. The Queensland data suggest a relationship between income levels and preference for state and federal regulatory systems. Also, in item D of table 2, the more highly educated Queensland farmers are, the more favorable they are to mandatory regulations than they are to farmer independence. Sociodemographic variables, particularly education, are more consistently associated with attitudes toward land use planning in the Queensland study than in the Iowa study.

Land preservation and rural lifestyle. In table 3, two scales relate farmers' attitudes toward land use planning: commitments to conservation of agricultural land and rural lifestyles. The scales are correlated ($r = 0.17$, $p = .002$), indicating a relationship between wanting to preserve land and keeping rural lifestyles. But a value for rural life is not simply a function of wanting to keep rural land in production, or the reverse. The scales relate differently to other variables.

The more farmers are committed to conserving rural land, the more supportive they are of land use planning ($r = 0.27$) (Table 3, B) and an active government role ($r = 0.45$) (Table 3, A). A commitment to land preservation also helps explain what government level Queensland farmers think should be responsible ($r = 0.24$) (Table 3, C). Farmers indicating that they want to preserve land is an important variable that helps to explain their attitudes toward government control. It is also possible to specify what level of government actions farmers support and particularly whether farmers think that planning should supersede farmers' freedom to decide how their farmland should be used, including freedom to sell land for nonfarm uses.

Social and demographic variables are associated with farmer attitudes to rural lifestyles, but only one factor (farm size, $r = 0.21$) correlates with land preservation. Education has a negative correlation with a concern for rural lifestyle ($r = -0.23$). The relationships suggest that farmers on large properties with high levels of education care more about keeping agricultural land for production and a source of income than for a rural lifestyle. In contrast, the number of years in farming and a plan to continue farming indefinitely are correlated, respectively, with commitments to rural lifestyle ($r = 0.20, 0.20$), but valuing agricultural land is correlated with neither.

In summary

McDonald and Rickson (13) previously found that Queensland farmers took an individually contradictory stance to rural land use planning. Farmers wanted the autonomy to sell to the highest bidder, but they preferred that good quality agricultural land remain in production. Queensland farmers are generally favorable to land use planning, but, depending upon their attitudes about rural land conversion, they either want to retain farmer autonomy to decide land use or they prefer voluntary programs to mandatory government land use regulations. Farmers' commitments to preserving rural land help to resolve partially their ambivalence toward government control of decisions about rural land conversion. When Australian farmers

Table 2. Correlations of farmers' characteristics and attitudes about land use planning, cross-cultural comparison: Iowa and Queensland.

	Characteristics					
	Age		Education		Income	
	Iowa	Q'd	Iowa	Q'd	Iowa	Q'd
Pearsonian correlations*						
A. Favorableness to land use planning						0.09
B. Perceived need for government action						
(a) Formation of permanent agency			0.15	0.11		
(b) Level of agency, if supported its formation						
County/local	0.18	0.25	0.22	-0.25		
Multicounty/Regional						
State						
Federal	0.31			0.17		
C. Locus of program responsibility (County/local; Multicounty/regional; state; federal)						
Research	-0.12	0.11	0.20	0.29	0.08	
Public education	-0.11	-0.14	0.13	0.24	0.04	
Preparation of guidelines	-0.14		0.15	0.19		
Final approval				0.18	0.10	-0.11
Funding	-0.10	-0.19		0.19		0.01
Enforcement	-0.13		0.08	0.22		
D. Preferred locus of decision making ("farmer only" to "government regulations")		-0.15		0.16	0.14	0.19

*The bivariate correlation is between the status characteristic and the response items for each question (exclusive of undecided or no response), as given in table 1. Correlations shown are statistically significant at or beyond the 0.05 level of probability.

feel strongly about keeping rural land, they are not only in favor of land use planning but also are increasingly likely to agree that government laws should supercede farmers' proprietary rights to make decisions about the sale and use of their land.

Horne (12) described Australian farmers as tending not to see a contradiction between private self-interest, farmer independence, and government bureaucracy. As he noted, farm communities in Australia usually have attempted to solve their problems by sending a delegation to the appropriate government minister and not through individual action. Australian farmers see government as responsible for settling disputes between farmers, acting to ensure equity, or serving as a political advocate of farmers. American farmers tend to have the same perspective about the government's role, although it is expressed publicly only in times of market failure or natural disaster.

The Queensland findings correspond with those of the Iowa study (5, 6), but Queensland farmers are more divided on the issue of land use planning and government's regulatory role than are Iowa farmers. Queensland farmers are ambivalent about individual rights to sell their land to the "highest bidder" and the desirability of preserving rural land. Frequency distributions indicate farmers' general favorableness toward land use planning and an active role by government. They are divided, however, between believing that only farmers should have the right to make decisions about how they should use their land, and supporting government agencies initiating either voluntary or legal controls to preserve agricultural land. Queensland farmers generally support a more active role by government than do Iowa farmers, but they react to government's role in a very specific way.

Farmers committed to preserving rural land are also likely to favor a strong role for government agencies. The more committed they are, the more likely they are to support a state and federal role over that of local agencies. They prefer that approval of land use plans, enforcement, development of guidelines for land use planning, and research be the province of local and state government—the level of their greatest influence over policymaking and enforcement. In fact, local government is generally responsible for introducing plans or planning schemes as to what uses of land will be permitted or restricted in certain areas.

Farmer education in Queensland is correlated positively with attitudes toward government's role. And the more education they have, the more likely are they to support a state and federal system over a local one, regardless of role, ranging from education

Table 3. Queensland farmers' attitudes toward rural land use control, rural land use planning; demographic factors and experience with farming by agrarianism.

	Agrarianism (Land Preservation) ("Rural Life")*
Attitude toward land use planning	
(A) Who should make decisions about rural land use? (farmers alone, farmers as a group, farmers with advice, government)	0.45
(B) Favorableness to land use planning	0.27
(C) Which government level should be responsible? (local, regional, state, federal)	0.24
(D) Establishment of permanent government body	0.11
Socioeconomic factors and experience with farming	
(E) Age	0.14
(F) Education	-0.23
(G) Income	0.13
(H) Farm size	0.21
(I) Years farmed	0.20
(J) Intention to continue farming	0.20

*Pearsonian correlations are between the particular agrarianism characteristic and the response items for each question (exclusive of undecided and no response). Correlations shown are statistically significant at or beyond the 0.05 level of profitability.

about land use to policymaking and regulatory enforcement.

Conclusions

Farmer ambivalence about land use controls sustains a long-standing dilemma for regulatory agencies. Reducing rural land conversion or acting to combat loss of rural land to various forms of degradation, such as salting or erosion, requires legislation directly affecting farmers' economic decisions about selling their land for profit or investing in conservation. The dilemma for regulatory agencies is that they must maintain the political support of target groups (farmers) while regulating their behavior (2, 8, 15). They are charged with enforcing laws that necessarily must change the accustomed behavior of some members of that group.

Government agencies are generally reluctant to actively enforce land use policy (2). Aggressive regulation conflicts with notions of proprietary rights found in traditional agrarian beliefs. This is one dimension of agrarian ideology perhaps, but the data suggest that an entrepreneurial, "rational" farmer, seeking to advance his or her holdings and to stay in farming as an occupation, rather than a style of life, is the one most supportive of government action to regulate conversion of agricultural land. Among these farmers, a commitment to preservation of rural land leads not to ambivalence but, rather, to support for planning. They are more likely than others to want rural land to stay in production and prefer that government take an active regulatory role so that disposition of rural land is not left solely to the individual property owner. The ability of agencies to enforce laws controlling rural land conversion, therefore, would seem to rely on how they relate to

these farmers as a source of political support.

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