COMMUNITY EXPECTATIONS AND PERCEPTIONS OF AGRICULTURE IN PERI-URBAN REGIONS

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Abstract

Mail surveys on community perceptions of agriculture were conducted in Hawkesbury, Wollondilly and Mudgee (NSW) local government areas (LGAs) in late 1996. Community perceptions of the nature and importance of agriculture were limited in Hawkesbury and Wollondilly compared to those in Mudgee. Major benefits of agriculture were food production, employment, amenity and open space, wealth creation and conservation. Most saw protection of agricultural land as a community priority. Objections to agriculture and its practices and environmental impacts were divided in the overall responses. The overwhelming majority in each LGA wanted agriculture to remain a major local industry. Over 70% of Wollondilly and Hawkesbury respondents believe agriculture is decreasing in regional importance because of urbanisation. 'Existing use' rights for farmers threatened by urban or rural residential encroachment were strongly supported.

Key words: Community perceptions, urbanisation, existing use rights, urban encroachment, rural residential, subdivision, agricultural land.

Hawkesbury and Wollondilly form part of the western Sydney peri-urban fringe, and while agriculture in past years has been a major contributor to the local and regional economy, its importance has declined as a result of a combination of poor industry economics and rapid urban encroachment. Mudgee was selected for comparison as it is located in a central western agricultural region and has a history of agricultural land subdivision for small farms. Growing concern has been expressed over the vulnerability of agriculture in peri-urban fringe areas to incursions by various forms of urban activity (3, 4, 5, 7). The picture is further complicated by rural land use conflict, where rural residential development in agricultural areas frequently leads to disputes over agricultural activities which are perceived to create adverse impacts on the amenity and environment of the local area (1). Applications for urban, industrial or rural residential development on agricultural land provide some of the greatest challenges facing local government today (9) and frequently become the focus of intense community debate. This paper reports on an investigation into community perceptions of agriculture and agricultural land in the three LGAs. This research was part of a RIRDC-funded project investigating the impact of rural subdivision on agricultural industry and the alienation of agricultural land in three NSW local government areas (Hawkesbury City, Mudgee Shire and Wollondilly Shire).

Methods

The research was conducted by mail survey in the three LGAs. The survey incorporated questions on key issues arising from pilot surveys done in 1995 at Orange National Field Day, AgView (Camden) and Hawkesbury Farmers Field Day. It was mailed in September 1996 to 4,400 households - 1,300 each in Wollondilly and Mudgee, and 1,800 in Hawkesbury. Survey recipients were selected at random, in equal proportions of rural residents, urban residents and agricultural land holders, from ratepayer listings of each Council. The response deadline was set at eight weeks and reminder notices and publicity articles were posted in the local press in each LGA. Analysis was by NUDIST software. ?The survey sought personal details of respondents and explored their understanding and knowledge of the nature, value and importance of local and regional agricultural industries. It also explored respondent attitudes to agriculture relative to other local and regional industries, to the importance of agricultural land as a community resource, and to preferred long term controls over future development of agricultural land. Attitudes to rural land use conflict issues and to existing land use rights were explored through multiple response scenario questions.

Results and discussion

Returns

Overall response rate to the survey was 27 %, with percentage returns by LGA Hawkesbury 45, Wollondilly 27 and Mudgee 25. The higher return rate from Hawkesbury probably reflects extensive community debate over the future of the mushroom industry and the retention of sustainable agricultural lands coincident with the survey period.

Awareness of agriculture

While the great majority (92 %) of respondents rated commercial agriculture as important in their LGA, there were significant differences between LGAs in perception of the extent of its importance. Twenty-eight percent of Mudgee respondents rated agriculture as 'very' important, while 62% rated it 'extremely' important. ?Hawkesbury and Wollondilly respondents rated it more conservatively, with respective percentages of 31 and 24 ('very' important) and 32 and 24 ('extremely' important). Of six nominated local industries (manufacturing, horses, public service, retailing, tourism and agriculture/ horticulture), 68 % of all respondents ranked agriculture as the most important, with a further 19% ranking it second. Respondents were also asked to nominate the six most important local agricultural industries for their area. Responses are summarised in Table 1, and show considerable differences between LGAs.

Table 1: Agricultural industries nominated as important, frequency of response, and actual economic ranking of each industry, for each local government area.

	Hawkesbury		Wollondilly		Mudgee	
Rank[a]	Industry	%[b]	Industry	%[b]	Industry	%[b]
1	Market gardening [5]	72.5	Beef cattle [5]	49.6	Sheep [2]	100.0
2	Turf [3]	56.4	Poultry [1]	47.4	Grapes/wine [1]	83.8
3	Horticulture [2]	47.7	Horticulture [2]	47.4	Beef cattle [4]	71.5
4	Mushrooms [1]	44.1	Dairying [4]	44.9	Farming (crops) [6]	45.4
5	Dairying [6]	25.8	Market gardening [3]	39.0	Bees/honey [na]	10.9
6	Horses [na]	20.5	Horses [na]	21.7	Livestock (other) [7]	8.8

[a] Ranking according to frequency of response for each LGA ; [b] percentage of respondents nominating the industry
1,2,3,4,5,6,7 actual industry ranking based on economic value (6) [na] not available

Table 2: Relative importance of the potential benefits of agriculture to a region. Figures show overall percentage[a] of respondents giving individual benefits each rank

	Rank [1]							
Benefit	1	2	3	4	5	6	7	8
Food production	41	23	10	6	4	2	2	1
Employment	27	28	12	7	5	4	3	1
Wealth creation	9	11	13	7	6	5	7	11
Open space	7	10	15	9	9	7	6	6
Conservation	6	7	14	15	10	8	4	3
Catchment protection	4	6	9	11	9	11	8	4
Visual amenity	2	5	8	12	10	9	10	6
Waste recycling	1	3	4	4	8	8	13	15

[1] 1 = most important, 8 = least important ; [a] percentages for each benefit do not add up to 100 because of high numbers of missing responses as respondents were not required to rank all benefits.

Economic value of agriculture in each LGA

While respondents in each LGA identified the importance of agriculture to their local area in general terms, the relative economic importance of individual industries was poorly understood (Table 1). Further, when asked to nominate the total value of agriculture for their area from a choice of six value ranges (0-

10, 11-20, 21-50, 51-75, 76-100 and 100 million dollars), 75 % responded 'don't know'. Responses from the remainder were spread fairly evenly across all the value ranges, indicating little understanding of the economic contribution of agriculture to the region in any of the LGAs. ?This was consistent across all areas and indicates that even in Mudgee, a traditional agricultural region, community understanding of the economic importance of local agriculture is very limited. This has important implications for the future of agriculture in each LGA, as community and local government debate and decision-making on issues such as conflict over some agricultural activities (eg. mushroom composting), or development of agricultural land for non-agricultural purposes, appears poorly informed. This is consistent with findings in other studies (2).

Benefits of agriculture to a region

Respondents were requested to rate the relative importance of eight suggested potential benefits from agriculture to their region. Overall responses varied widely (Table 2), with food production and employment rated highest. Wealth creation, open space and conservation value were also regarded as important benefits. Responses were similar for all three LGAs.

Subdivision of agricultural land

Subdivision of agricultural land, particularly in peri-urban areas, has become a contentious issue in all Australian states, with Queensland, Victoria and South Australia recently introducing legislation to protect prime land. The councils of all three LGAs in this study are actively involved in assessing applications for urban and rural residential development of agricultural lands, and all to date have been hampered by the dearth of data on the real impact of such developments, a problem throughout Australia (2). The majority (63%) of survey respondents overall agreed with the statement ' landowners should be able to subdivide their land if they wish', yet 71% overall also agreed with the contra-statement 'councils should regulate subdivision of all land'. ?This paradoxical view has also been reported from similar research in the USA (8). Responses to both questions in all three LGAs were generally similar, although Hawkesbury respondents were more likely to disagree with the right of landowners to subdivide. Given a choice of six size ranges for minimum subdivision allotments, the majority (38%) of respondents overall proposed a minimum of two ha, with the balance of responses divided between all size ranges. Mudgee respondents generally favoured larger minimum lot sizes (20, 100 and 200 ha). Around 15% each of Hawkesbury and Wollondilly respondents also favoured minimum sizes of 4 ha, with a similar percentage favouring a 10 ha minimum.

Environmental impacts of agriculture

Some variation was evident between LGAs, with 55%, 46% and 39%, respectively, of Hawkesbury, Mudgee and Wollondilly respondents believing that environmental problems emanate from agricultural activities. When all perceived problems were listed, an average of only 2.4 per respondent resulted. The low number reported indicates that respondents either believed that agriculture causes few problems overall, or that they had a poor understanding of the real situation. Principal concerns were chemical use and pollution of air, water and land (39%), land degradation (salinity, erosion, compaction, siltation of waterways) (26%), deforestation and loss of biodiversity (10%). Other problems reported were effluent from intensive industries, overgrazing, noise, feral animals, weed invasion and impacts on aquatic life. Perceptions of the types and magnitude of problems from agriculture were similar in all three LGAs, although only Mudgee respondents nominated land degradation from overgrazing. Industries nominated as causing environmental problems totalled 63, but the great majority of these were identified by only 1 or 2 respondents. Only 5 were mentioned by more than 5 % of respondents. Greatest concerns were about mining, then manufacturing, sewage treatment, piggeries, chemical factories, market gardens, poultry, waste disposal, and housing development. Mudgee respondents were most concerned about land degradation issues, while chemical use was the major concern in Hawkesbury and Wollondilly. Subdivision of agricultural land was identified as an environmental threat in Hawkesbury and Wollondilly, and was linked to housing development, land degradation and effluent disposal issues.

The future of agriculture

There were significant differences between Western Sydney and Mudgee respondents in their perceptions of current and future trends in agriculture. Hawkesbury (71%) and Wollondilly (78%) respondents saw agriculture as decreasing in importance in their area, while the corresponding figure for Mudgee was only 33%. Only 29% (Hawkesbury) and 21% (Wollondilly) of respondents saw agriculture as increasing in importance, in contrast to 67% in Mudgee. 47% of Mudgee respondents also perceived that agriculture would intensify in the future. The majority (each 38%) response in Hawkesbury and Wollondilly indicated agriculture would not intensify in future, while 30 and 27%, respectively, believed it would. Urban encroachment, subdivision of agricultural land and poor returns from agriculture were the main reasons given for the belief that agricultural area would decrease in Hawkesbury and Wollondilly, together with intensification of agricultural industry and increasing land values and council rates. Mudgee respondents regarded increasing grape plantings as a major intensification of agriculture, and cited poor financial returns and subdivision of prime land as major threats to existing agricultural industry. Retention of agriculture as a major industry in their LGA was strongly supported by all respondents (Hawkesbury 84%, Mudgee 92%, Wollondilly 84%). Existing use rights of a market gardener, faced with constraints on his activities imposed by council acting on complaints from a new rural residential neighbour, were strongly defended by all respondent groups, with fewer than 3% of respondents supporting the new neighbours actions. Respondents were presented with a scenario in which proposals for a major development on land adjoining their own was outlined, and asked to rate their reactions from welcoming to outright rejection of a range of alternatives. Strongest opposition was expressed to an airport, then a quarry, factory and a pig or poultry farm.

Conclusions

Respondents were very aware of agriculture as an important industry in their LGA, and felt strongly that it should be retained. They had limited idea of its nature, scale, viability and regional economic importance. ?They identified with industries clearly evident in the landscape or the subject of active community debate. ??There is an evident nexus between agriculture and agricultural land, respondents appearing to regard them as synonymous. Few realised that intensification of agriculture would result in less demand for land and land quality, and the case for retention of agriculture was really one of retention of 'prime' agricultural land as a community resource, valued for its amenity rather than productivity. Local government decisions on agricultural lands appear to have a limited factual basis.

The future role of the agronomist in peri-urban regions may well have to extend beyond a technical focus on plant production to one with a significant focus on educating the community about the real nature and socio-economic importance of agricultural industries.

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