

Evaluating the benefits of bilingual officers in providing training and advice to non-Background Farmers in the Sydney Basin English

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Abstract

This paper reports on the effectiveness of employing bilingual officers to facilitate communication with some of the 1000 farmers from non-English Speaking Backgrounds (NESB) in the Agricultural sector of the Sydney Basin. Two programs aimed to improve the agricultural skills of Vietnamese farmers and water use efficiency of Arabic, Vietnamese, Cambodian and Chinese farmers. Evaluations including results being compared to the program objectives and a survey of practices that included questions relating to a Goal Attainment Scale which was developed to help measure success of the programs. The methodologies allowed comparisons between the programs.

Overall, evaluation of the programs indicated that bilingual officers were a successful communication method. Sixty percent of survey respondents reported the bilingual officers provided useful help when needed, 71% reported that they have changed practices relating to food safety, their economic viability has improved and 80% reported they have improved their farming practices. There is a clear indication that bilingual officers improve farmers adoption of new practices. Nevertheless, it is recognised that implementing change is difficult due to community dynamics and cultural issues. The evaluations also indicated where improvements to future programs were needed. The authors believe that evaluations confirmed that the project objectives were met.

Introduction

Farmers in the western Sydney Basin come from a wide range of language backgrounds. It is estimated that there are more than 2000 vegetable market garden farmers, of which 85-90% are of non-English speaking Background (NESB) and 65-70% of these NESB growers are first generation (Leigh James, *pers. comm.*, Mason and Gillespie 2003). There are also 360 flower growers (Bettina Gollnow *pers. comm.*). We estimate there are approximately 370 Arabic (plus another 740 Arabic farm workers), 40 Vietnamese, 330 Chinese (plus another 660 Chinese farm workers), 85 Cambodian, 20 Yugoslavian/Serbs and 10 Korean farms that are owned or managed by these growers. For the Arabic and Chinese farms there are also an additional 2 farm workers on average per farm. It is often assumed these growers have low English literacy skills. This is confirmed by our estimates that only about 50% of Arabic, 20% of Chinese, 20% of Cambodian and 20% of Vietnamese growers appear to have English proficiency levels sufficient for practical training purposes. There are also over 600 Maltese and 120 Italian background farmers still operating enterprises in the Sydney Basin but for these growers language is not considered a constraint when obtaining agricultural and food safety information.

NESB farmers with language barriers may be disadvantaged in accessing information, and resources and services to improve their farm business, increase productivity and manage the farm sustainably. Literacy problems in these groups also make it difficult for farmers to communicate their requirements for information. Further, it cannot be assumed that all growers are literate in their first language especially as regards technical terms as there are highly variable education levels throughout these communities. Even where English proficiency exists there may be cultural barriers that inhibit access to and adoption of new practices. This may result in farming practices that are inconsistent with community expectations for environmental protection, ecological sustainability, food safety and occupational health and safety. As a result of this understanding, NSW DPI employed bilingual officers to engage at a one-to-one level with the farmers and bring about changed practices. The officers were selected firstly for their first language skills and secondly for agricultural qualifications. The bilingual communication officer working specifically with the Vietnamese community held a PhD in Agriculture and adult education qualifications.

NSW DPI delivers a range of services to farmers irrespective of cultural background. Activities are focused on developing skills and knowledge that result in improved farming practices. The outcomes anticipated are an expectation that farmers develop problem solving and decision making skills. In general farming practices are of a routine and regular nature, and the adoption of new practices challenges the security of the familiar. For example, if an outcome such as changed fertiliser practices is needed, the farmers, in order to make the required changes, must have access to sufficiently convincing information such as financial benefits, experiences that confirm the change is useful and necessary and the confidence to carry it out. The changed practice also needs to be accepted as peer practice - farmers generally do not want to go it alone.

Trust is essential in the communication process, but even more important where there is an inherent mistrust of government. Many of the Asian and Arabic farmers have experienced governments that rarely supported their activities and may have generally made their lives difficult. Bilingual officers, by understanding the cultural experiences of the farmers actively work to bring together the differing expectations of farmers and government agencies. They facilitate and develop an ongoing relationship.

Where there is a serious public good issue such as real or perceived pesticide overuse, questions of environmental pollution and food safety, there is a case for government support for education and training and incentives to improve uptake of new best practices. However, these public good needs are not necessarily the needs of the growers who are usually more interested in business viability including crop yield and price. It is therefore critical to have evidence to support the use of bilingual officers, and evaluation provides evidence that may justify the expenditure of public funds

This paper reviews the effectiveness of the bilingual officer model response to communication with NESB farmers by analysing two project evaluations. This analysis is restricted to the Vietnamese farming community because one project was over 3 years and there were two sets of evaluation data to draw upon.

Projects Evaluated

WaterWise Introduction to Irrigation Management (Waterwise project)

The aim of the project was to deliver irrigation efficiency training to improve the management and operation of irrigation practices amongst the market gardeners. The main training tool was the Introduction to Irrigation Management Course (IIMC). This course had been written in plain English and translations were available. Bilingual officers were appointed to provide support to the four main language groups (Khmer, Chinese, Arabic and Vietnamese) within the vegetable growing farmers in the Sydney Basin. An evaluation was conducted (Molino Stewart (2004) with some the Vietnamese grower responses presented here.

Improved Economic Sustainability of Vietnamese Vegetable Growers in the Sydney Basin (RIRDC project)

The aim of the project was to enhance the adoption of best agricultural practices by Vietnamese farmers, using the support of a Bilingual Officer in a communication role. The objectives of the project included adoption of best practices by Vietnamese vegetable growers and increased economic viability of Vietnamese growers due to improved market access. The role of the bilingual officers in this project followed a format established in the WaterWise project (Brunton 2004).

In both projects the farmers had an opportunity to converse with an expert in their language and participate in training with other like farmers. This provided a peer group with the same developing skills. The activities in which they engaged were practical and enjoyable, they were held on-farm in groups of less than 15 participants.

Evaluation Methodology

Discussion of Goal Attainment Scale

The surveys include questions relating to a Goal Attainment Scale (GAS) that was developed to help measure success of the evaluation themes over time. The GAS is an internationally recognised evaluation tool (Kiresuk and Lund 1978) that has been used in several professional fields including the health, environmental and social welfare sectors. It involves stakeholders setting program goals and then deciding on desirable and undesirable outcomes for each goal. For this research, a GAS

framework was constructed based on original project objectives and possible outcomes identified by NSW DPI staff. The GAS framework for the WaterWise project appears in Appendix 1.

The GAS scores each objective according to expectations on a 1-5 scale. Survey questions relate directly to the GAS and therefore results can be reported against the project objectives. For example; an objective of the RIRDC project was to improve farming practices. The GAS represents this as a scale predicting a range of outcomes from the most to the least expected (Table 1). From the GAS questions are developed to provide an evaluation of the achievement of that goal (see following question).

Table 1. Goal Behaviour Change and GAS score

| Score | Goal Behaviour Change |
|-------|---|
| 5 | I will be improving (or have improved) several ways in which I farm |
| 4 | I will be improving (or have improved) one way in which I farm |
| 3 | I hope to improve the way I farm |
| 2 | I am thinking about improving the way I farm |
| 1 | I will not be changing the way I farm |

The question in the survey relates directly to this GAS:

(17). Which of these comments best describes what you will do (or have done) after the irrigation course?

- a. I will not be changing the way I farm.....
- b. I am thinking about improving the way I farm.....
- c. I hope to improve the way I farm.....
- d. I will be improving (or have improved) one way in which I farm.....
- e. I will be improving (or have improved) several ways in which I farm.....

IIMC methodology

For the evaluation of the Waterwise project, a framework was developed that brought together a number of evaluation methodologies. Farmers (IIMC participants and non-participants) from the four cultural and language groups were surveyed to identify possible barriers to course uptake. The survey questions reflect the concentration on the evaluation themes identified and were constructed in consultation with staff involved in the project. Some matching questions were included in the RIRDC project evaluation in an effort to track changed attitudes and practices in the community.

RIRDC methodology

The methodology used in the evaluation of the RIRDC project was based on the Waterwise project evaluation. A GAS form was developed and survey question modeled from it. Surveys were conducted with 35 of the growers involved in the project. This represents 95% of the known Vietnamese farmers in Sydney.

The two projects had some objectives in common. These were reflected in GAS forms and allowed for some consistent questions across the two evaluations over a longer period and comparisons to be made between the projects.

The farmers

The Vietnamese farmers in the Sydney Basin grow a wide range of Vietnamese herbs, Asian leafy vegetables, melons (hairy and bitter) and cherry tomatoes. Fifty three percent of growers have greenhouses and 47% of them farm only in open fields. (Hall and Dang 2004). Seventy per cent of growers have formal or verbal agreements for leases of less than 3 years as only thirteen per cent own their farm. (This insecurity of land tenure has a significant impact upon the farmers' capacity to invest in farm improvements).

Evaluation Outcomes

The evaluation of the Waterwise project (Molino Stewart 2004) showed that only one training participant believed that 'the Bilingual Officer gives me no help'. All the rest of the participants believed that the Bilingual Officers were at least useful at training and 52 per cent of these felt that they give 'excellent help when needed'.

Seventy eight per cent of the participants identified other ways that the Bilingual Officer helps them (i.e. excluding the IIMC). This extra support includes:

- "Translating government documents"
- "Helping to read and apply the new water licence"
- "Providing information on farm problems e.g. chemicals"
- "Helps communicate with NSW Agriculture [now NSW DPI]"
- "Provides practical advice about farming practices"

There were only a few suggestions to improve the role and performance of the respective Bilingual Officers. These mainly related to need for quicker response for help, more practical advice and not to appear to 'pressure' farmers into joining the grower's association.

About half of the non-participants were aware of a Bilingual Officer. Of these non-participants, all believed the Bilingual Officer would provide 'useful help' to them. Only one suggestion was offered by the non-participants to improve the role and performance of the Bilingual Officers and that was "to look at new ways to encourage farmers to do the irrigation course (IIMC)".

In comparison, the evaluation of the RIRDC project revealed that 74% of the participants believed the bilingual officer was at least useful with 51% of these reporting 'excellent help when needed'.

The RIRDC evaluation sought to determine if the bilingual officer approach had had an impact of various aspects of farming practices (Table 2).

Table 2. Changes from 2003 to 2006 in attitudes to a range of issues

| Question | Option selected by Vietnamese growers (%) | | | | |
|---|---|--------------|------|-------------------|----------------|
| | Much worse | Little worse | Same | A little improved | Improved a lot |
| Farm viability | 7 | 3 | 10 | 60 | 20 |
| Community strength | 0 | 0 | 9 | 56 | 34 |
| Opinion of farmers of their food safety | 0 | 0 | 0 | 48 | 52 |
| Community attitude to farmer safety | 0 | 0 | 3 | 58 | 39 |
| Community access to information | 0 | 0 | 9 | 70 | 21 |

This data shows that some practices and attitudes have improved since 2003. This evidence suggests that the improved access to information has led to improved attitudes to food and farmer safety and the strength of the community.

Some questions were specifically consistent across the two surveys. This allowed for a comparison across the years. When asked about their thoughts on improving the ways they farm participants responses in 2006 differed from 2003 (Table 3).

Table 3. Changes between 2003 and 2006 in common questions.

| Questions in common between 2003 and 2006 | 2003 | 2006 |
|--|-------------|-------------|
| There are no benefits in me improving the ways I farm | 0 | 0 |
| Improving the ways I farm will reduce my costs | 0 | 3 |
| Improving the ways I farm will reduce my costs and produce better plants | 17 | 0 |
| Improving the ways I farm will reduce my costs, produce better plants and improve my farm | 8 | 3 |
| Improving the ways I farm will reduce my costs, produce better plants, improve my farm <u>and help the environment</u> | 75 | 89 |

The general understanding that improving farming practices can have beneficial effects on costs, plant quality and the environment improved over the 3 years of bilingual officer activity. Whether this can be directly attributed to the activities of the bilingual officers is uncertain, what it does indicate is that support for general farm improvements can impact on attitudes that may eventually result in changed behaviour.

Questions were asked consistently across the 2 surveys, one of which involved sources of information (Table 4). This provides an indication of the independence and maturity of the farming group.

Table 4. Where do you obtain information about crop management/ control measure/ technique, business management?

| | WW 2003 | RIRDC 2006 |
|---------------------------|----------------|-------------------|
| Other farmers | 42 | 74 |
| Newspapers | 8 | 17 |
| Radio | 0 | 17 |
| Consultants/farm advisors | 8 | 31 |
| Internet | 0 | 17 |
| Bilingual officers | 100 | 86 |
| Other | 0 | 0 |

These results indicate a change in approach to information acquisition. Farmers showed in 2006 they had a greater diversity of sources of information, they relied less heavily upon NSW DPI and more on sources information from other consultants (chemical resellers, seed suppliers etc). The internet and other media also increased as sources of information. This indicates a more sophisticated industry with a developing self-reliance.

Irrigation practices are one feature of farming that indicate technical capacity and development potential. Each of the farmers were asked about which tools they use to control irrigation (Table 5). The use of increasingly complex technology indicates a higher degree of technical proficiency and some degree of experimental capacity. It also indicates the level of investment in infrastructure the farmers are prepared to make.

Table 5. Responses to the question ‘How do you know when to irrigate?’

| | 2003 | 2006 |
|--|------|------|
| Regular watering times | 33 | 43 |
| Observation (soil looks dry or plants wilting) | 75 | 80 |
| Weather reports | 25 | 74 |
| Full stop | 0 | 6 |
| Combined water probe | 0 | 3 |
| Dig stick | 0 | 3 |
| Gypsum block | 0 | 3 |
| Tensiometer | 8 | 9 |
| Neutron probe | 0 | 0 |
| Enviroscan | 0 | 0 |
| Gopher | 0 | 0 |
| Own experience | 83 | 80 |
| Other | 8 | 0 |

These results indicate a slight move towards more sophisticated technologies, but with a continued strong reliance on observations of watering needs rather than measuring water availability.

Conclusions

There is evidence to support the view that the placement of bilingual communication officers facilitates improved acquisition and implementation of skills. Through the facilitated communication pathway, information can flow more freely and understandings develop more effectively.

Farmers became increasingly skilled and adopted more sophisticated technologies during the period the bilingual officer was in place. Attitudes and intentions to improve farming practices improved and farmers became more aware of the necessity to improve. The activities which engaged the farmers most and led to the better adoption outcomes, were highly participatory, which leads the authors to conclude that the more practical, participatory and directly beneficial the activities, the higher the likelihood the practices will be adopted.

The appointment of bilingual officers is acknowledged as an expensive communication process. However, attempts to encourage growers to fund processes such as this have not been effective. This is because the grower needs are different to those of Government and other agencies.

Recommendations

1. Bilingual officers be considered in all Government and other agency projects working with farmers of backgrounds other than English.
2. Projects focused on developing farmer leadership and communication skills are essential to allow improvements in sustainable agriculture within grower communities.
3. There is a need to develop and evaluate farmer participatory research and extension approaches to improve sustainable practices on NESB farms.

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Appendix 1

GAS FORM - NESB WATERWISE PROGRAM

| | Goal Headings | | | | |
|--|---|---|--|---|--|
| Level of expected outcome | Goal 1 Bilingual Officers | Goal 2 sustainable farming | Goal 3 Farmer Attitudes | Goal 4 Behaviour Change | Goal 5 Language in Training |
| Much more than expected (5) | The bilingual officer provides excellent help to me when needed | I found the whole project provided me with many practical ways to farm better | Improving the ways I farm will reduce my costs, produce better plants, improve my farm and the environment | I will be improving (or have improved) several ways in which I farm | The use of bilingual officers and teaching materials helped me understand a lot more |
| More than expected (4) | The bilingual officer gives useful help to me when needed | I learnt many ways to farm better from most of the project | Improving the ways I farm will reduce my costs, produce better plants and improve my farm | I will be improving (or have improved) one way in which I farm | The use of bilingual officers and teaching materials helped me understand more |
| Most likely outcome (3) | The bilingual officer gives useful help to me at training | I learnt several new ways to farm better | Improving the ways I farm will reduce my costs and produce better plants | I hope to improve the way I farm | The use of bilingual officers and teaching materials helped me understand |
| Less than expected outcome (2) | The bilingual officer gives a little help to me at training | I learnt only a little about farming better | Improving the ways I farm will reduce my costs | I am thinking about improving the way I farm | The use of bilingual officers and teaching materials did not help me understand |
| Much less than expected (1) | The bilingual officer gives me no help | I found nothing useful project | There are no benefits in me improving the way I farm | I will not be changing the way I farm | The use of bilingual officers and teaching materials stopped me from understanding |