

4 Discussion

4.1 Introduction

The results of the group interviews suggest that it is important to carefully consider:

- how different people experience impacts of land use change
- the linkages and relationships between different impacts of land use change
- how the way a land use is carried out may affect the types of impacts it has, and
- how perceptions have changed over time.

4.2 How do people experience the impacts of land use change?

Slootweg *et al.* (2001: 25) argue that when examining the social impacts of changes such as new government policies, development or land use change, it is essential to understand that different people will experience change in different ways. Because different people will be impacted by change in different ways, they argue that it is necessary to examine both the social changes that are caused by land use change, and the impacts of those social changes:

In the context of our approach, human impacts should be seen in the broadest sense. This means that they refer to quantifiable variables such as economic or demographic issues, as well as to changes in people's norms, values, beliefs and perceptions about the society in which they live ... we argue that a distinction between social change processes and human impacts should be identified in the social setting. ... An increase in population, or the presence of strangers, is not the experienced impact, the experienced impact is likely to be changed perception about the nature of the community ('communityness', community cohesion), changed perception about personal attachment to the community, and possibly annoyance and upset as a result of the project. The ways in which the social change processes are perceived, given meaning, or valued, depends on the social context in which various societal groups act.

It is important to understand both the social changes that may result from land use change (for example, changes in demographic characteristics of the population, or in the nature and availability of employment), and how people experience these changes. The results presented in this report therefore document participant perceptions of both social changes that result from different types of land use change, and how these changes have affected their lives and the lives of others in their communities.

The outcomes of the group interviews support the idea that impacts are different to social change. In many cases, participants described the same types of social change, but debated or differed in how they described the impacts of that change. For example, participants who discussed blue gum plantations and land prices agreed on the nature of the change caused by plantation expansion — upward pressure on land prices. There were different views about the extent to which plantation expansion had

contributed to land price pressure, with some believing plantation expansion has been one among many factors influencing change, and others believing that it was the most significant cause of land price increase, but there was general agreement on the overall nature of the change — an upward pressure resulting from demand by the plantation sector. However, the impacts of upward pressure on land prices differed substantially for different people. In particular, those who wished to start or expand an agricultural enterprise were described as often disadvantaged by the change, as land had become more expensive. Even this was not always the case, however, with some examples given in which landholders had sold a property in a ‘high land price’ area, and used the additional money to purchase a larger and more viable enterprise in an area where land prices were not as high. Meanwhile, those who wished to sell properties were described as benefiting from both increased land prices and the overall increase in demand for land, which meant they found buyers for their land and received good money for it.

The separation of changes from their impacts suggests that it is entirely likely that people may hold different perceptions about the impacts of the social changes caused by land use change, without this necessarily being a conflict or contradiction of views that needs to be resolved. A given change may have positive impacts on one person, and negative impacts on another.

It also suggests that the experience of impacts depends on how a person perceives that change. This is commonly accepted in the field of social impact assessment, where:

In contrast to biophysical impacts, human impacts can occur as soon as there are changes in social conditions, even from the time when a project is anticipated. People do not simply experience social changes, they react to them and are able to anticipate them. This makes prediction of social changes and human impacts difficult and situation specific. (Slootweg *et al.* 2001: 25)

In other words, the experience of impact is dependent on how people perceive a change. If a person believes that plantation expansion will lead to increased land prices in the future, they may decide it will have a negative impact, and act independently to mitigate that predicted impact by investing in a new property before prices rise. If many people do this, prices may rise independent of any effects of plantation expansion, simply because there is a strong belief that this change will or might occur.

Similarly, the experience of impact is influenced by the beliefs and values of those experiencing change. A person may encounter many changes, but not all of these changes will be viewed as significant (Stern 2000). Across a rural landscape, different people will value different outcomes of land use (Williams 2003). For example, some may give value to environmental good while others may be more concerned about individual profit or social diversity. A person primarily concerned about economic prosperity may express little concern regarding a land use that changes social or environmental outcomes. A person most concerned about environmental good may pay little attention to consequences of land uses for social cohesion or economic

prosperity. In this way, the impacts of land use will differ across different social groups and interest groups as values differ within society. At the same time it should be noted that impacts may affect people even if they are not aware of their presence. For example, a person may be unaware that land prices have increased in their region, yet may still experience financial stress if rates rise due to rising valuation of their property.

Slotweg *et al.* (2001)'s argument for the separation of 'change' and 'impact' allows the complexity of impacts to be better understood, as has been discussed above. Impacts are contested and experienced differently by different people. The data from the group interviews, suggests that it is not only perceptions about nature and types of impacts that may be contested: the nature of the social changes that result from land use change are also contested. For example:

- There was debate about whether plantation expansion was the major contributor, one of many contributors, or not a contributor at all, to decline in rural population
- There were varying views about the impacts of a range of land use changes on the nature and availability of employment. Some described the same land use changes as leading to increased local employment while others firmly believed they led to decreased local employment.
- The social changes resulting from rural residential expansion were described as varying greatly. While this was often because the nature of rural residential expansion varied across the region (and hence the social changes it leads to would be expected to differ), it also pointed to differing perceptions of social change arising from this land use change.

What does all this mean for the understanding of the socio-economic impacts of land use change in the Green Triangle and Central Victoria?

First, there is no simple answer to the question 'what are the impacts of a particular land use change'. Land use change in the Green Triangle and Central Victoria has had profound impacts on the lives of residents in the region. These have been both positive and negative; the socio-economic changes in the region have resulted in deep divisions in some parts of the community and in increased pressures for many people, as well as in new opportunities. The nature of the social changes caused by land use change is often debated; so is the nature of the impacts. Perhaps most importantly, interview participants emphasised the complex and interlinked nature of land use change, socio-economic change, and the impacts of that socio-economic change on their lives. It is important not to artificially oversimplify these changes and impacts, and just as important to clearly identify the range of ways people are experiencing and understanding land use change.

Second, the results of the group interviews suggest a clear need to undertake research which better explores the nature of social changes and whether and how land use change influences social change. The results also confirm the importance of understanding how social change impacts different people and groups — simply documenting the nature of social changes does not provide an understanding of what it means for the lives of those living and working in the region.

4.3 Linkages and relationships between different impacts of land use change

In the results, land use change was identified as having many types of impacts, such as impacts on local and regional economic activity, community interaction and cohesion, services and community groups. Interview participants commonly described the impacts as forming part of a chain of interrelated impacts, rather than as occurring in isolation. A typical chain of impacts is evident in the quote below:

I guess one of the other effects of the cropping and the increase in farm [size], is the fact that it's reduced the number of people. Many farmers now are working farms that might be aggregate[ed], depends on which part you're in, aggregation of you know five or six or even more farms which means that there's now you know one family there you know four members maybe? Where in the past there were probably 25 other people there, so they've generally left the community because there's generally not a great deal of work for them if they go and reside in the local town, so they've lost their, so who suffers from that, is that community numbers drop, fire brigade numbers drop, ah, people available to play sport both senior and junior drop and the numbers to keep school open drops as well...

In this case, the participant describes how they have observed a land use change (farm amalgamation) lead to decreased employment. This in turn is believed to have led to population and demographic change (less farm families) and so to impacts on community groups (numbers in fire brigade, sport clubs).

The wide range of inter-relationships between different types of impacts mean that land use change results in not one or two isolated changes, but rather comprehensive change in multiple dimensions which affects many aspects of people's lives. The impacts may involve a constellation of changes to a person's social life, family life, work life, and business opportunities. One land use change may also trigger a range of changes which leads to further, and different types of, land use change.

Therefore the impacts of land use change cannot be fully understood by simply looking at each group of impacts in isolation. Any analysis of social change and impacts of that change must examine the chain of events that may be triggered by a land use change.

This is made more complicated by the issue of multiple factors influencing change. Population and demographic characteristics of a town or rural community may be influenced by a land use change and at the same time by multiple other factors. Isolating the impacts of the land use change from other influences is difficult; it is even more difficult to attempt to trace the 'chain of impacts' of land use change when

every type of social and economic change occurring in a community may have multiple causative factors.

4.4 Land use characteristics and their influence on impacts of land use change

The previous sections highlighted that the impacts of land use change are inter-related and that understanding impacts requires understanding both the socio-economic changes resulting from land use change, and the ways those changes impact on people's lives. Understanding the impacts of land use change becomes even more complex when the differences in how a land use change may occur are considered.

Interview participants emphasised that the impacts of a land use change may depend on the way the land use is carried out. For example, in one interview, some participants argued that expansion of plantations has different impacts depending on the way land was accessed for plantation expansion. Some (but not all) argued that if land was leased for plantation expansion it may have fewer negative impacts than if land was purchased by the plantation company:

...if you were leasing there would be a slightly different, I imagine a slightly different effect on the demographic where, because it's only being leased, the farmer still, or at least is more likely to, remain on the land, whereas when the timber company purchases it and subdivides it usually that's the farmers kick in the butt to actually move on whether it's into town or, you know... up to Melbourne and that kind of thing.

Similarly, impacts may differ depending on how a particular type of land use change occurs. For example, while many different types of change to cropping were described, negative impacts such as declining population were primarily associated with one type of change to cropping: the amalgamation of properties to form larger enterprises. Other changes — such as intensification of cropping, and change in the type of crops produced — were not associated with the same types of impacts.

While only a small number of examples were given in the interviews, examination of the impacts of land use change should carefully specify how a land use change occurs. A land use change, such as a shift to plantations, should also be split into multiple categories where appropriate, based on the differences in how that change occurs.

4.5 Have perceptions changed over time?

The *Land Use Change* study is, in part, following up an earlier study undertaken by the University of Melbourne in 2000. The earlier work (Petheram *et al.* 2000) also reported on a series of group interviews in which residents of the region were asked their views on land use change. The 2000 study examined views in a much smaller area and methods used in group interviews differed somewhat from the current study. However, there was considerable similarity in the topics discussed, and it is possible to compare the results of the group interviews in the two studies.

The following similarities and differences were noted by researchers:

- A wider range of land use changes were noted by participants in the 2006 interviews.
- The emphasis given to water as a land use, driver and impact of change was much greater in the 2006 interviews.
- Rural residential development arose as a significant land use change in 2006 but was not mentioned in the 2000 study.
- Blue gum plantations were highlighted as a significant land use change in both 2000 and 2006. Once again, participants described many negative impacts of blue gum plantations. Many of these impacts were also identified in the 2000 study, and there appeared to be little change in acceptance of this land use change. The emphasis given to water availability impacts of blue gum plantations appeared greater in 2006 than in 2000.
- Greater attention was given to changes associated with cropping in 2006. Participants described a greater range of changes within cropping and appeared more aware of impacts of these changes.
- Views on dairying appeared very similar to those expressed in 2000. Participants in both studies appeared generally positive about the impacts of increased dairying on their areas.
- There appeared to be greater sophistication in participants' descriptions of the interrelationships between drivers and impacts of land use change in 2006, with greater acknowledgment of the difficulty of attributing any impact to a single land use change.

5 Conclusions

In the Green Triangle and Central Victoria land use has changed significantly over the past 15 to 20 years. Many different changes have been noted with the most significant including increased area of blue gum plantations, cropping, rural residential development, and both increased and decreased dairying in different parts of the region. Changes in how cropping and dairying are undertaken, increased farm amalgamation and changes in water availability and use were also noted as very significant.

There were some general trends in the ways different changes were characterised and experienced. For example, participants were generally more positive about the impacts of increased dairying than about the impacts of increased blue gum plantations. However, exploration of views on these land uses suggests significant variation in the ways people describe and experience these land use changes. The findings indicate it is important to explore:

- both the observable and perceived impacts of land use change
- how both perceived and observable impacts differ across different types of residents of the region, and
- the reasons views may differ across groups.

6 References

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