

Agricultural Landscapes in the Wet Tropics

Future visions balancing environmental,
social and economic needs



Iris Bohnet, December 2004

Acknowledgements

I would like to thank everyone who expressed an interest in the community workshops “Future visions for the Mossman/Julatten landscape”. A special thank you goes to all who took the time to come along and share their views and insights about their preferred future landscape development. I hope you have enjoyed and learnt as much as I did.

I would also like to thank the staff at the Julatten and Mossman community centres who kindly offered me their facilities to run the workshops.

COVER IMAGES

Front-page – Field day in Mossman, August 2004.

Back-page – Mossman coastal landscape in 2003, diversified Mossman coastal landscape with continued sugarcane in 2025, diversified Mossman coastal landscape without sugarcane in 2025.

Context

Since the listing of the Wet Tropics World Heritage Area (WHA), conservation and primary production have been treated as mutually exclusive in the Wet Tropics. Conservation is considered to take place in the WHA whereas primary production and economic development is thought of to happen everywhere else, i.e. in the agricultural landscapes. However, there is now recognition that proactive management across boundaries is needed to address the key challenges for the Wet Tropics. For instance, the need for greater protection of the Great Barrier Reef demands changes in agricultural land use and management practices to improve water quality. This also means that habitats in the agricultural landscape (outside the WHA) may need to be preserved or established to maintain ecosystem function or to conserve biodiversity (Figure 1).



Figure 1: Abattoir swamp, environmental reserve, Julatten

In addition, economic pressures on primary industries coupled with pressures for urban development raises the question about the impacts of new options for agriculture and landscape in the future.

The two case study areas, Mossman and Julatten, provide unique examples of landscapes, as the Mossman landscape is surrounded by two WHAs, the Wet Tropics and the Great Barrier Reef and more than two thirds of the Julatten case study area is surrounded by the Wet Tropics WHA (Figure 2).

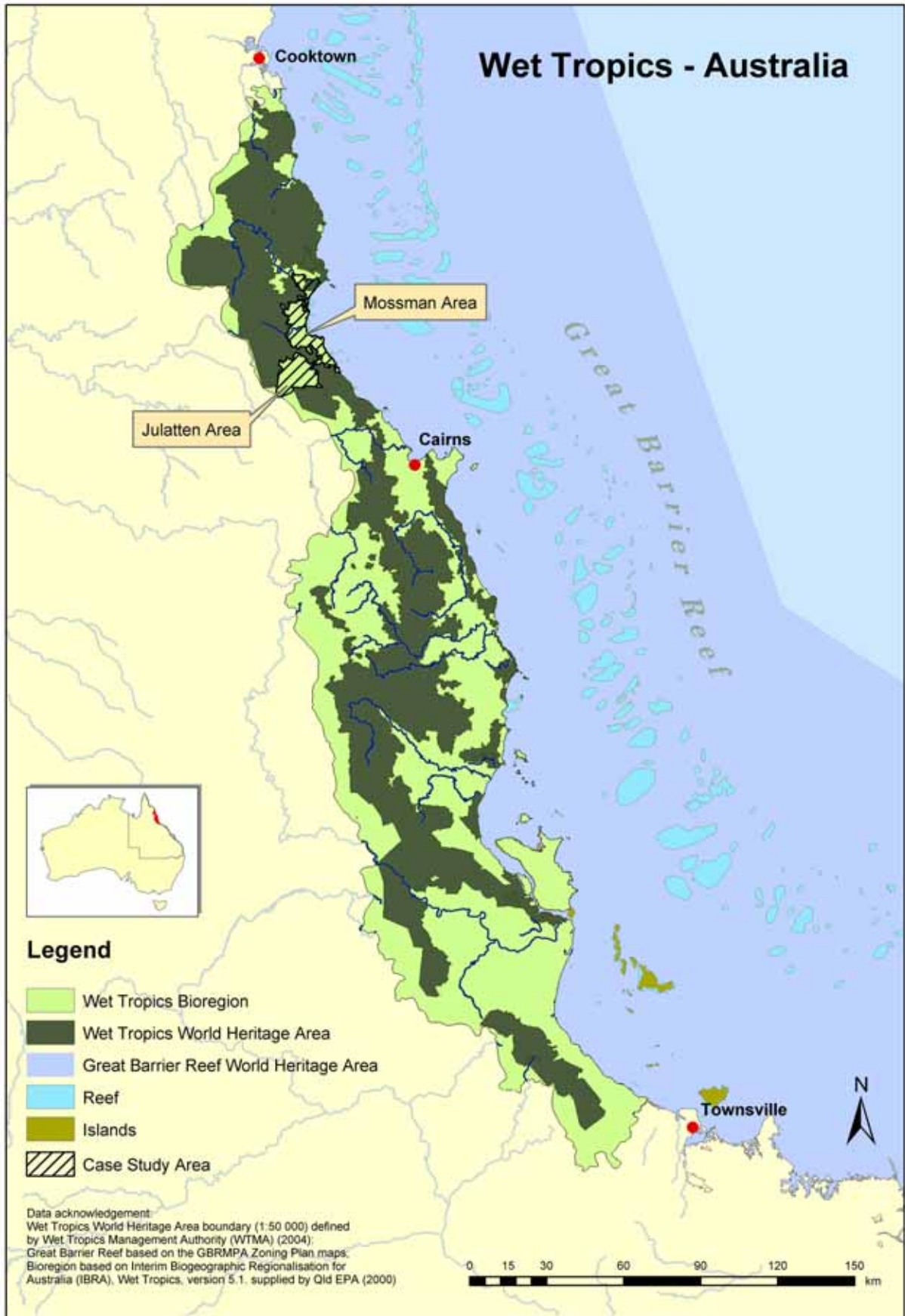


Figure 2: Wet Tropics Bioregion, World Heritage Areas and location of case study areas

Why take a landscape approach?

In the context of this study landscape is about the relationship between people and place. Landscape provides the setting for our day-to-day activities. Landscape results from the way that different components of our environment – both natural (influences of geology, soils, climate, flora and fauna) and cultural (historical and current land use, settlement) – interact and are perceived by people (Figure 3). People's perceptions turn land into landscape. The concept of country in aboriginal culture has similarities to the concept of landscape taken in this study. Country also includes people and their relationship to the land, water and air.

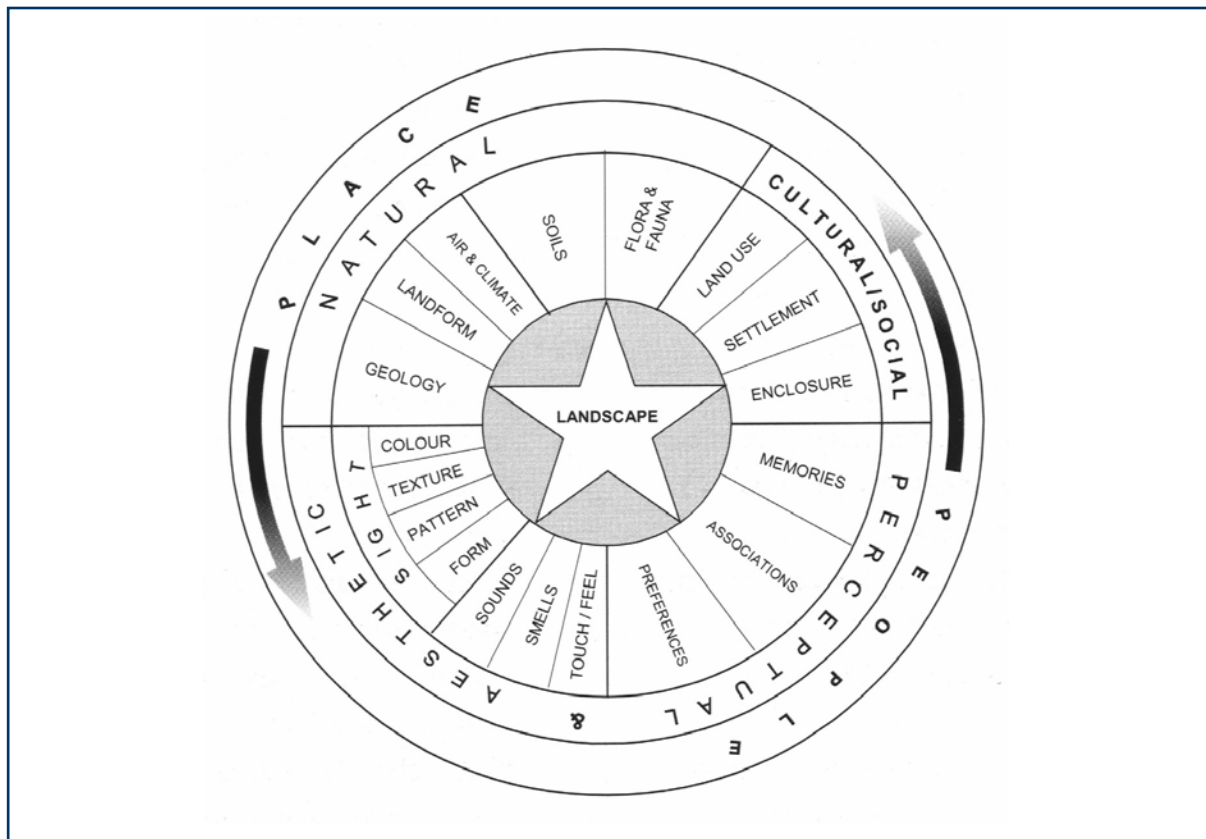


Figure 3: Concept of landscape (Source: The Countryside Agency and Scottish Natural Heritage, 2002)

Aim and objectives of the research project

In line with the concept of landscape outlined, the overall aim of the project was to develop a social-ecological framework for systematic landscape planning that allows people to be part of the research process (Figure 4). A further requirement for the framework was to allow the study of the

natural, cultural, visual, social and economic dimensions of landscape and the linkages and interrelationships between them.

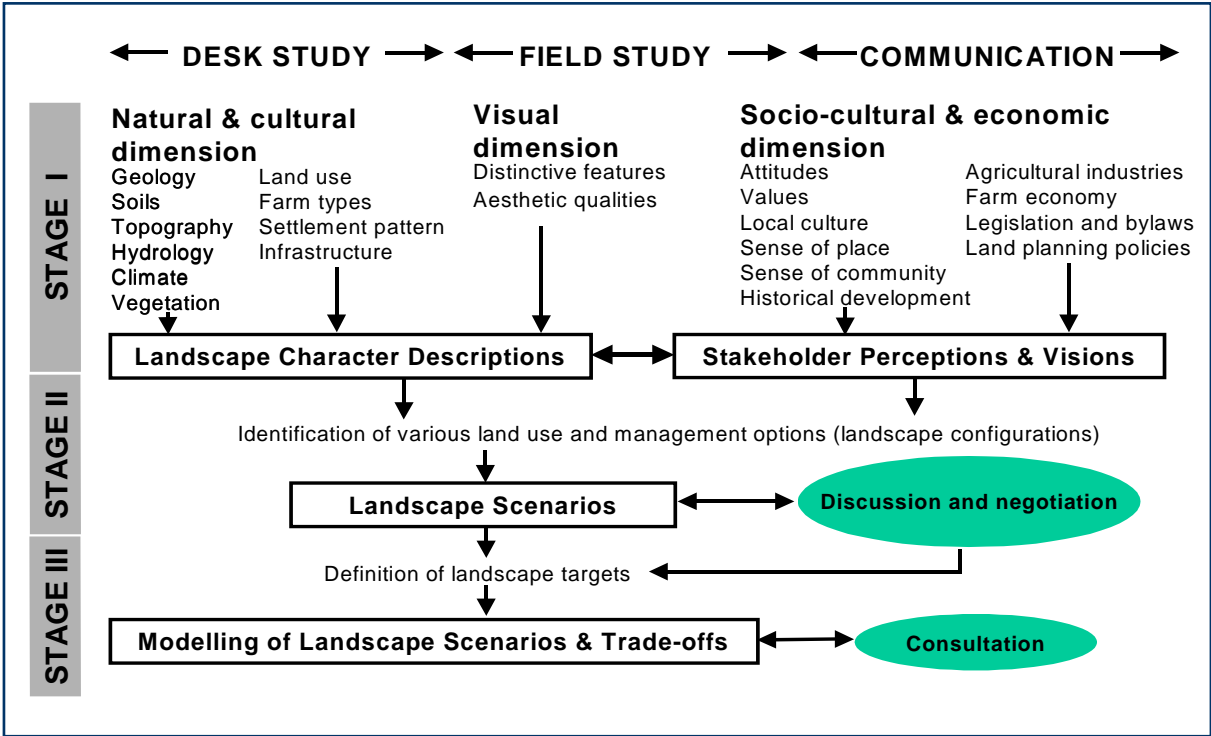


Figure 4: Social-ecological framework for systematic landscape planning

This was considered important in order to overcome the existing divide between production and protection landscapes.

Focusing on the social, cultural and economic dimensions, the objectives of the project were: (1) to understand farmers’ and landholders’ goals and aspirations regarding the future of their land and the landscape they are living in; and (2) to develop future visions for the Mossman and Julatten landscape together with locals, including farmers, landholders, non-landholders, tourism industry, environmentalists and indigenous people.

The results of (1) have been reported back to the participating farmers and landholders in a similar booklet in March 2004. The results of (2) are communicated through this booklet to the participants of the community workshops.

Community workshops

Seven community workshops with, in total, 39 participants have been held in the Mossman and Julatten area between June and August 2004. Table 1 provides the broad characteristics of participants.

Table 1. Broad characteristics of the workshop participants

	TOTAL	MOSSMAN	JULATTEN
Gender			
Male	16	7	9
Female	23	10	13
Age			
<30	2	2	0
30-40	9	4	5
41-50	7	4	3
51-60	7	1	6
>60	14	6	8
Length of time lived in the area (in years)			
<5	4	1	3
5-10	3	1	2
>10	21	8	13
Born in the area, left and returned	5	1	4
Whole life	6	6	0
Main interest in the area			
Farming	14	7	7
Tourism	6	3	3
Natural and social environment	19	7	12

In addition to the above information, everyone participating in a workshop provided some clues why he/she decided to take part. Everyone showed a great interest in the Julatten/Mossman area and its future, interest to present and discuss their own views but also to hear what others had to say. Learning from others in a group, discussing future land use options and their potential trade-offs were also important and triggered participation.

Results from the community workshops

The information gathered in the workshops is extensive. A summary report of each workshop, based on the workshop transcript, was prepared and sent out to each of the participants. In this section the results from all the workshops are compiled, common themes discussed and priorities for the preferred future landscapes derived from the workshops are also presented.

Significant differences were found between the Julatten and Mossman workshops. However, there was also variation between and within the workshops held in each area.

A general view presented in the Mossman workshops was that the Mossman coastal landscape is highly appealing and attracts many people including thousands and thousands of visitors per year. In contrast, Julatten was identified in the Julatten workshops as a peaceful and quiet upland landscape with a world-class climate, which more and more people have slowly started to discover. These perceptions of the two landscapes have implications when thinking about future change.

Alternative futures for the Mossman coastal landscape

Common themes discussed

Discussions in the Mossman workshops focused mainly on whether the sugar industry will survive or cease in future. In these discussions participants speculated about the probability of the cane industry surviving in the area. However, as the aim of the workshops was to discuss participants' preferred future landscapes (visions) instead of trying to forecast the future, the discussions about sugarcane divided the participants into two groups. While most participants would like to see sugarcane grown in the Mossman landscape in future, a number of participants advocated a future without sugarcane. One participant stated:

"I think the mill should be shut down and a museum be created, I really do".

Participants agreed that diversification in land use and management needs to take place regardless of the cane industry surviving or not. This is reflected in the following statement being made by one of the participants:

"I am actually quite interested in seeing something else started here because I probably have the feeling that the mill could carry on, but probably only a five or six hundred thousand tonne mill, but I think we need to have different things hanging off, co-generation has to start but I also think stuff like plastic, and probably cattle feed as well. I also agree with Dave, I think there needs to be other things brought into the district for the benefit of the whole area. Cocoa might be all right, you don't need huge areas. ... if that could happen, the district could grow and prosper."

In this context participants discussed diversification options and alternative land management practices. Potential crops/industries/cottage industries were identified and included: cocoa, taro, sweet potato, hemp, bamboo, aquaculture, (agro)forestry, horticulture, flowers, vegetables, beef, fodder, ethanol, starches, paper, fibre boards, plastics, boutique sugar, chocolate, tropical fruit wine, juice and smoothies, tropical ice creams and jams, furniture, honey, goats meat and cheese. Many participants advocated more environmentally friendly and organic farming practices. Besides the prospect of higher returns for organic produce public acceptance of organic farming practices were discussed to be potentially higher and conflicts between the farming and non-farming community might be reduced as no chemicals are used in organic farming. Suggestions were also made regarding the use of natural resources to produce medicines and to supply the beauty industry (e.g. with ingredients to make shampoo, soap).

Water quality and quantity were issues discussed in every workshop. In the context of alternative land use options (including urban development) the potential impacts on water quality and quantity were debated.

A further common theme discussed in Mossman was the requirement to carefully balance the needs of the tourism industry and local people. The following statement reflects how many participants felt:

“Tourism comes first, environment (World Heritage Areas) second and agriculture and the local community last.”

In this context, quality of life of the local people and the need to create a “like-minded” community in which people respect cultural differences was raised.

Protection of the natural environment and landscape was important to participants for a wide range of reasons. One of the comments frequently mentioned was:

“We don’t have tourism if we don’t retain what we have.”

This statement reflects the linkages between the natural environment, agriculture and tourism in the area. It also shows that, despite the tension between quality of life of local people and tourism, tourism often serves as an argument for protecting the natural environment. Air pollution was a further issue raised in this context and the impact on the local community and tourists visiting the area were debated.

Ideas related to public transport and the need to establish walking and cycling paths were further common themes discussed. The use of the cane train infrastructure for public transport and as a tourist attraction was suggested.

Rural residential subdivisions were perceived as a major threat to the integrity of the landscape (Figure 5) and quality of life of local residents. Rural residential subdivisions were discussed in relation to every theme.



Figure 5: An example of rural residential subdivisions in the Mossman hills

Priorities for the future landscape

Continued agricultural production, water quality improvements and biodiversity conservation were identified as main priorities for the future landscape.

Continued agricultural production was perceived by many participants as a means to “keep the rural feel of the area” that is highly valued by local residents as well as tourists. Diversification of the landscape through a range of crops is desirable. In future, people are likely to appreciate the variety of produce they can associate with this landscape. Continued agricultural production was also assumed to stop or reduce further rural residential developments. Diversification into more intensive, small scale crops such as vegetables or flowers were thought of to allow people with an interest in farming to make a living from a relatively small area of land. The provision of local jobs was a further advantage presumed through continued agricultural production.

While many participants perceived continued agricultural production as the main priority to focus future efforts, some participants strongly advocated that, in line with the Water Quality Projects conducted in Douglas Shire, improving water quality had to be the main priority in the future. Agricultural land will need to be managed in the future so that no, or substantially reduced, loads of sediments and nutrients run off farming land. Retaining a “certain amount of” groundcover, establishing wetlands (including silt traps) and riparian buffer zones were considered as potential measures to improve water quality. Clean rivers and creeks were assumed to be highly attractive to locals and tourists.

Maintaining natural resources and protecting and enhancing biodiversity within the agricultural landscape were perceived by some participants as priorities. In contrast to the following statement made by one participant:

“People believe it’s their right to do with it (land) what they like to do”

Participants felt it was important to protect native vegetation such as rainforest remnants on farms. This was perceived important as these remnants provide habitats for native animals but also have intrinsic values. Habitat networks, riparian corridors and reduction of agrochemicals were considered effective measures to protect native vegetation. Enhancing biodiversity and establishing walking tracks and cycle paths were assumed to work hand-in-hand and be attractive for locals and visitors. Farm stays and farm educational and commercial tours were considered to provide benefits to farmers and the local economy.

Alternative futures for the Julatten upland landscape

Common themes discussed

In the Julatten workshops discussion centred on the rapid changes occurring in the area. These changes have been associated with development pressures for rural residential subdivisions and changes in land use and management practices. The fact that,

“Julatten doesn’t have a centre and houses are spread everywhere”

was perceived as a threat to the integrity of the landscape and “uniqueness of the area”, particularly in relation to current development pressures which may lead to piecemeal developments. The close proximity to the coast and

international tourist destinations such as Port Douglas was identified as a disadvantage. A participant stated:

“Julatten has become a cheaper place to live than Port Douglas ... so it becomes a suburb of Port Douglas or something like that ... if we like it or not.”

In the same context another participant pointed out:

“I don’t want to see the area going to become a second Kuranda.”

This reflects what workshop participants would not like to see happening to Julatten in the future.

Water quality and quantity was an important issue discussed in all workshops.

“Water is the most precious thing on earth”

was stated by one of the participants. The loss of wetlands and degradation of watercourses over the last few decades was examined and the main causes identified. In relation to potential future developments, demand on the water supply was identified as the major issue.

Protection of the natural environment (including water quality and quantity, flora and fauna, climate) was considered essential by workshop participants. Reduction of human impacts on the environment and “positive action” was one perceived way to protect and enhance the environment (Figure 6). Wetland restoration, planting of riparian buffer zones, establishment of wildlife habitats, minimum block size for rural residential subdivisions, specific locations for subdivisions, environmentally friendly farming practices, restricting pets in agricultural and rural residential areas, as well speed limits in areas where wildlife moves were opportunities discussed in this context.



Figure 6: Riparian planting and fencing off Bushy creek from cattle

In addition to the points mentioned above, in all workshops, participants suggested the establishment of walking tracks and cycle paths to enhance the amenity of the area. Local residents as well as tourists visiting the area would benefit from the provision of these facilities.

In all workshops sustainable and diverse land use and management practices for the Julatten landscape were debated. Potential future land use types included: market gardening crops including vegetables, herbs, taro and potatoes; pastures; hemp; horticulture; and (agro)forestry. Permaculture, organic and biodynamic farming practices were suggested to reduce the impact on the natural environment. Land management practices carried out to encourage, for example, bird life on farms was suggested in relation to eco-tourism and farm stays.

Priorities for the future landscape

The workshop participants identified three distinct future priorities: 1) the creation of a vibrant agricultural landscape and community; 2) protection of water quality and quantity; and 3) protection from the loss of biodiversity.

The creation of a vibrant agricultural landscape and community was a priority for some participants, where people grow food to supply the local community and region. Market gardening crops and horticulture were perceived as potential industries allowing farmers to earn a living from farming on a relatively small area of land compared to, for example, the

area needed to run a viable cattle farm. Prescribing the use of “good agricultural land” for farming was seen as a way to reduce pressures for rural residential subdivisions. It was also seen as a means to attract people with an interest in small-scale agriculture to the area and to provide local jobs. Organic or biodynamic farming was suggested to reduce the environmental impact of farming and to reduce potential conflicts between farmers and non-farmers in the area.

Water quality and quantity had the highest priority for other participants. Participants argued that any future activities carried out in Julatten should be measured against water availability in the area. Any activities carried out should not pollute water and not be a drain on the water supply. This is in contrast to the participants’ advocating growing food in the area. “Water advocates” argued that “proper farming” may use too much water and therefore land may be better managed according to the current available water supply without being an extra demand on the whole system.

The loss of biodiversity, particularly since the introduction of sugarcane to the area, has been a major issue for some workshop participants. One participant stated:

“I think that sugarcane should never have been introduced to the area ... I think there have to be alternatives.”

A canefarmer who attended the same workshop responded:

“I agree with you, some of the area shouldn’t have been opened up for sugarcane, your best option here is timber by far. This was a good timber area right through to Mareeba, ... it’s still the best option.”

A ban on tree clearing and the re-establishment of natural habitats including riparian corridors was suggested. It was also suggested that potential losses in farm incomes could be compensated by gains made from tourism activities on farms (e.g. bird watching, platypus observation). Overall, a highly biodiverse farming area could also benefit economically from the provision of walking tracks and cycle paths. This was also perceived as a proactive measure to provide some tourism activities (e.g. nature based) while avoiding others (e.g. mass tourism).

Alternative future landscapes to illustrate different stakeholder preferences and to inform local planning and policy development

The alternative futures for the Mossman and Julatten landscape discussed by workshop participants illustrate their wide range of views regarding future land use change and management practices. Comparing the priorities discussed by the workshop participants with the actual landscape in 2003 shows that these landscape changes largely depend on future environmental and agricultural policy choices as well as local government planning. These choices affect land use and management practices, ecological health, social and economic structure of the communities and the broader public's experience of these landscapes. Looking back at the region's history it is clear that, just as past decisions have influenced today's management, the alternative futures and industries discussed will affect future land use and management. These future impacts need also to be considered.

In the workshops, participants suggested provision of incentives for existing farmers to continue farming, potentially in a more environmentally friendly way, preferable organic/biodynamic, to maintain the "rural agricultural landscape". Incentive schemes for farmers and landholders were also suggested to re-vegetate riparian buffer zones, to improve water quality and establish natural habitats on farms to enhance biodiversity. These and other measures such as better education and information were proposed in order to achieve participants' long-term visions for the future.

Besides providing direction for future research the data gathered in the community workshops provided valuable information that can underpin planning, management and investment to support thinking about what kind of tourism Julatten and Mossman wants to develop in the future and how to work towards achieving that goal.

Translating participants' priorities for the future into a range of landscape scenarios that can be mapped in a Geographic Information System (GIS) offers additional, spatial information that can contribute to, and improve, participatory planning in order to develop more sustainable future landscapes for locals and visitors to enjoy now and into the future.

Summary produced for the participants of the community workshops carried out in the framework of this research project.



Mossman coastal landscape in 2003



Diversified Mossman coastal landscape with continued sugarcane in 2025



Diversified Mossman coastal landscape without sugarcane in 2025

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