

SUSTAINABLE LAND MANAGEMENT FOR AGRICULTURAL PRODUCTION - CAN THE RESOURCE MANAGEMENT ACT DELIVER?

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Introduction

The Resource Management Act (RMA) 1991 promotes the sustainable management of natural and physical resources (Part II) hence the RMA regulates the use of the land, water and air in New Zealand. The major task of implementing and provides for the regulation of the RMA has been given to local government. The local government comprises the city, district (territorial authorities) and regional councils. Some district councils are unitary authorities and hence have both regional and district councils' functions. Generally territorial authorities control subdivision of land and emission of noise and provide waste management and roading services to their ratepayers. Regional councils are responsible to manage environmental quality, soil loss and water flow regimes. Environment Waikato is a regional council that has been given the task to manage a 25000 km² area in the North Island. The land in the Waikato Region is diverse and used mainly for pastoral farming, forestry, horticulture and conservation purposes.

The land management is regulated according to the relevant sections in the RMA (e.g. sections 6, 9, 10 11, 15 and 17, 20, 30, 31, Part X) and by resource consents and regional and/or district plans. When a local authority develops a policy it should aim at *integrated management* of the resources and promote Part II of the RMA. This requires maintaining consistencies between and within the national, regional and district policies. If inconsistencies appear these may be resolved at the Environment Court according to section 82 of the Act.

Philosophically there is a fundamental difference between the way water and land uses are administered by the Act and viewed by the community. Land is either owned and managed privately or by the crown or iwi whilst water is owned by the crown and managed by the regional authorities. Recently there have been iwi claims over water resources ownership. The controls the regional authorities have on land are to ensure that the land is managed for soil conservation purposes and to avoid or minimise soil and water contamination. This situation leaves the territorial authorities (i.e district councils) to make important decisions on the *use* of land.

This paper critically discusses the fate of the most valuable natural resource – land, within the current statutes.

Why regulation of land use is critical?

Land can be used for a range of purposes, food, timber, fibre, beverage production, transport, building, conservation, recreation, mining, quarrying and discharges. Globally and nationally because of urban sprawl and poor soil and water management practices, land availability for the purpose of food production has been diminishing rapidly. It could be argued that with improved plant and animal breeding, agri-chemical use and husbandry, farmers are able to produce more food per land area. However, in majority of the cases, such intensive food production has

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exceeded the carrying capacity of the land resulting in degraded environmental quality. Increasing environmental and bio-diversity awareness means that land under indigenous forest or natural wetland may not be available for food production purposes. If careful national or global strategies are not in place to protect the existing food producing soils, in light of increasing world population there may be a global shortage for certain food and fibre products. One good example for such food product is processed milk. Next to breast milk, dairy milk is the best available milk source for millions of children in the world. There is no doubt that global demand for milk will continue to increase. Increasing demand means milk is more expensive to access. However, the current reality is that there is a glut in the world milk market. What are reasons for it?

New Zealand is one of the few countries that promote and practice free trade policies. As a country New Zealand is in the front line in food production and processing technology. Europeans and Americans aim to promote free trade, however, in practice would like to regulate trade through subsidies and tariff. Consequently, the global food supply and prices are being maintained artificially. Unlike its competitors, New Zealand does not provide subsidies for farmers and hence New Zealand farmers are extremely vulnerable to the political decisions made in Europe and USA.

Despite such a narrow-minded attitude of major trade partners, the global trend is for free trading. In the long term the farm subsidies and tariffs have to go. Such a situation will favour New Zealand's economy substantially. Nevertheless, as a nation we have not prepared ourselves to maintain or increase agricultural production to take market advantage under a genuinely global free trade environment. In the meantime it is becoming increasingly important that in order to maintain or enhance environmental quality New Zealand has to either maintain or reduce the stocking rate on the productive land. It can be argued that New Zealand has used the best technology to achieve the production threshold per unit area. Consequently, the advent of new technology could only increase the existing production marginally. Bear in mind that any new technology to increase production per unit area has to also consider the pressures on the environment. Any new technology to increase production also has to be cost effective. What all these indicate is to maintain the existing level of production more effort should be put on retaining the productive capacity of the land. This can be achieved through better soil management practices and by reducing the loss of productive land for other uses. As a nation we do have a Sustainable Land Management strategy. The Ministry for the Environment (MfE) is in the process of implementing this strategy with the help of farmers and local government. The strategy aims to minimise soil losses and adverse effects on soil and water quality. The strategy, however, will not help retain the use of existing productive land for future agriculture. In the case of pastoral farming it is a matter of urgency to maintain the land parcel to sustain the income. It is becoming common knowledge that dairying on less than 50 ha land parcel is not sustainable from an economical viewpoint. Sustaining the productive capacity, including retaining the land parcel to sustain production can be encapsulated in a term such as 'versatility'. The term versatility is used in the context of soil quality. Maintaining soil versatility means that soil could be put to a wide range of uses. Generally soils that are used for food production purposes have the highest versatility. I emphasise that the term 'versatility' should also be used in the context of land management. For example land with high versatility could be put to a wide range of uses. One of the key factors affecting land versatility is its size; the larger the land parcel, the greater the versatility. Consequently, a 5 ha block has limited land use compared to a 50 ha block of land.

I urge that the MfE should thoroughly assess the issue of loss of land versatility and provide a national policy to minimise ad-hoc policies from territorial authorities. I am also aware that the policy makers such as the MfE are reluctant to ‘bite the bullet’ because such policies may artificially increase or decrease property values. Being an agricultural nation and apart from applying the regulatory tools, I am yet to be convinced of an alternative tool to retain land versatility in New Zealand. If the move is not swift, with the current trend of rural subdivisions more productive land will be lost to other land uses.

Apart from regulating subdivisions, regulation can also be a valuable tool in terms of minimising adverse effects on water quality. Regulation could be used to control dairy conversion in the Lake Taupo catchment, for example where additional nitrogen input to Lake Taupo could cause adverse effects on water quality. Similar principles could be applied where a voluntary approach has failed to stop inappropriate land use in the hill country to minimise soil loss.

Role of soil scientists

Soil scientists and policy makers are very familiar with the high-class soil debate. Based on certain criteria, it is known that only 5% of the New Zealand’s land area have high-class soils. Currently, the major issue threatening these soils is soil lost to urban sprawl and rural subdivision rather than soil lost through poor land management practices. Bearing in mind some of the high-class soils are unique globally, there is no doubt they deserve protection. Such a protection can only be achieved through regulation. If regulated the remaining 5% of the land with high-class soils can be protected not only for the purpose of food production but as a resource that is of national importance. Section 6(b) of the RMA states, “**6. Matters of national importance – In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall recognise and provide for the following matters of national importance: (b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;**”. If you sift through the case laws you will find out that the councils that argued for the protection of high-class soils from inappropriate subdivisions failed to draw the attention from the Environment Court judges or from the MfE probably because our soils scientists have failed to justify that the New Zealand high-class soils are a unique natural feature. The main argument put forward for the protection of high-class soils has been for the purpose of food production and this does not justify fully the land users from subdividing their lands because it could be argued that currently there is substantial amount of land available for food production although the productive capacity of non high-class soils is as not good as high-class soils.

Unlike water quality soil quality monitoring has received little or no attention in the past. More recently, MfE has been promoting the development of soil quality indicators. Major Crown Research Institutes such as Landcare Research, Crop & Food and AgResearch are in the process of developing and using soil quality indicators to assess the state of soil quality in New Zealand. Despite the short duration within which these CRIs worked, substantial progress has been made in the understanding and interpretation of soil quality monitoring. Since traditionally regional councils have been focusing on water quality and soil conservation matters, these councils have to rely heavily on research organisations’ archives to obtain baseline information on soil quality. Moreover, despite the recent high emphasis on soil quality issues, a majority of the regional councils have not yet strategically positioned to improve expertise in soil quality area. Soil quality monitoring requires expert interpretation of the data collected and hence regional councils will continue to rely heavily on CRIs for interpretation of soil data.

Soil scientists have a very powerful role in sustaining the use of nation's land resources. Soil scientists are often in a better position than policy makers to identify and resolve land management issues. Nevertheless, most scientists are reluctant to influence national or regional policies on a technical level. Scientists must voice their views actively through presentations and workshops to improve policy makers and farmers understanding of sustainable land use practices. Such views should be based on scientifically defensible facts. What are the soil quality issues? What can farmers, regional councils or MfE do to resolve these issues? What type of monitoring is required? What is the significance of the high-class soils?

Role of regional and district councils

As stated before, the councils could use their statutory powers to promote land management sustainability for agricultural purposes. District councils have more powers to have direct control on land uses. Part X of the RMA deals exclusively with subdivisions and reclamation. Section 11 of the RMA deals with the restrictions on subdivision of land. This section requires subdivisions to be authorised by district council through resource consent or district plan. It is common knowledge that most district councils want to promote economical growth in their districts. Subdivision is one way of promoting economic growth hence district councils may be reluctant to restrict subdivisions. Nevertheless, some district councils have been courageous enough to restrict subdivision in their districts. The objections to controlling subdivisions have been property value increases and immobilisation of economic growth. Such a situation has affected property developers and received overwhelming opposition. Consequently, this issue has been considered in amending the RMA. One of the changes proposed through the RMA amendment bill has been to repeal s11 of the RMA and provide for subdivisions either through resource consents or certificate of compliance.

Regional councils hold valuable information on water quality and quantity issues. For example through the recent State of the Environment reporting, Environment Waikato concluded that a high proportion of the water pollution has been caused by non-point sources rather than point sources. As stated before, certain land uses such as dairying may not be sustainable in sensitive catchments such as Lake Taupo. Regional councils have the power through s30 to control land use for the purpose of maintenance and enhancement of water quality. However, the RMA has not provided the mechanisms for regional councils to control land uses to maintain water quality. It may be assumed that regional councils could control stocking rates and fertiliser application rates to minimise environmental impacts on water quality. Such an approach will not be accepted by the fertiliser industry and the farming community and will increase monitoring costs. In the case of maintaining Lake Taupo water quality the main issue is not controlling stocking rates or fertiliser application rates. It is well known that even with low stocking rate and zero fertiliser application grazed dairy pasture will leach significant amount of nitrogen into ground water. Consequently, any additional dairy conversions in the catchment could potentially degrade the water quality. Regional councils are powerless in terms of controlling dairy conversions and have to rely on district councils to regulate land uses to maintain water quality. In the case of Lake Taupo, the onus is on Taupo District Council to produce a district plan to control land uses in the Taupo catchment.

Another major land use topic under scrutiny is the maintenance of indigenous forest covers to maintain biodiversity and water quality. Following the destruction by Maori and European settlers, there is currently 25% of the original indigenous vegetative cover remnant in the

Waikato Region. Some regional councils like Environment Waikato have controlled indigenous tree harvest through land use rules. These land use rules were promoted to control forest harvesting activities to minimise soil loss. These rules received substantial amount of submissions from the forest and farming industries and consequently Environment Waikato has withdrawn them following the introduction of the Proposed Regional Plan in 1998. This is because regional councils have little or no legislative powers to control land uses other than for s30 of the RMA functions (soil conservation and water quality and quantity). It is difficult to use s30 functions to justify land use controls on the clearance of indigenous vegetation primarily to maintain water quality. Currently there is no regional rule to protect the remaining indigenous vegetation. This situation leaves the task to the district councils to control the harvest of indigenous vegetation.

Since the enactment of the RMA, the general attitude of the regional councils has been to minimise antagonistic situation with industry. Consequently, most regional plans produced to date considered non-regulatory approach such as environmental education and promotion of code of good practices to achieve desired environmental outcomes. It is not surprising that national policies developed by the MfE also promote voluntary mechanisms. National policies have not been developed to address many critical environmental issues and the fate of the natural resources management is largely left to the district and regional councils. The current local government situation is not conducive for these councils to work together to resolve common and urgent environmental issues. Consequently, a wide range of mechanisms are being used by councils to resolve environmental issues. This has resulted in much 'reinventing the wheel', costing rate-payers money and a significant difference in economic activities and environmental outcomes between districts and regions in New Zealand.

Non-regulatory approach relies heavily on the voluntary actions by industries and individuals to minimise environmental impacts. Some overseas observers view this as "RMA provides for slow and steady pollution" and are annoyed that regulatory mechanisms are not used effectively to minimise natural resources degradation. The non-regulatory approach places heavy onus on the industries to perform through voluntary means and hence any environmental issues related to market access will be the responsibility of the industries.

Role of industries

Agricultural, horticultural and forestry industry must make a substantial amount of effort in sustaining land uses. Forestry industry has developed code of practices to minimise soil losses through harvesting activities. Recently, fertiliser industry has developed a code of practice to use fertiliser. Currently the dairy industry is investigating the development and implementation of a Quality Assurance system. As a regional council, Environment Waikato encourages code of practices and environmental management systems (EMS). However, achieving the desired environmental outcomes rely heavily on environmentally sustainable code of practices and strict adherence to them by the industry. If the industries proactively promote sustainable land use practices, resource consent processes or other regulatory processes will eventually become redundant.

Conclusions

New Zealand is a small country rewarded with relatively large amount of fertile land for productive and conservation purposes. Globally, land resources are dwindling rapidly because of urban sprawl and unsustainable land management practices. Compared to many competing

nations, by maintaining land versatility, New Zealand could position strongly and strategically to meet a significant future global demand for food, fibre and timber. The regulation mechanisms adopted by regional and district councils to achieve sustainable land management practices (including maintaining land versatility) have been ad-hoc, inconsistent and often ineffective. In short the RMA has been to date ineffective to sustain the productive capacity of the nation. There is an urgent need for a national policy to protect productive land and indigenous vegetative cover. As argued by the developers such a move may result in economic immobilisation. Regulation of land use will result in a short-term economic stagnation. Nevertheless, in the long-term regulation will ensure availability of productive land for future generations.