

The government's role in sport, fitness and leisure

Report to the Ministerial Taskforce on Sport, Fitness and Leisure

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Preface

The New Zealand Institute of Economic Research (NZIER), based in Wellington, was founded in 1958 as a non-profit making trust to provide economic research and consultancy services. Best known for its long-established *Quarterly Survey of Business Opinion* and forecasting publications, *Quarterly Predictions* and the annual *Industry Outlook* with five-yearly projections for 25 sectors, the Institute also undertakes a wide range of consultancy activities for government and private organisations. It obtains most of its income from research contracts obtained in a competitive market and trades on its reputation for delivering quality analysis in the right form, and at the right time, for its clients. Quality assurance is provided on the Institute's work :

- by the interaction of team members on individual projects;
- by exposure of the team's work to the critical review of a broader range of Institute staff members at internal seminars;
- by providing for peer review at various stages through a project by a senior staff member otherwise disinterested in the project;
- and sometimes by external peer reviewers at the request of a client, although this usually entails additional cost.

Authorship

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EXECUTIVE SUMMARY AND CONCLUSION

In an economic framework, the government has a role to play when the market fails, or when there are equity concerns. A market failure occurs if the amount produced is not the amount that society desires. This means that society could be made better off by reallocating resources. In the sport, fitness and leisure sector, market failure is most likely to occur because of spillover effects, or because of the public good nature of the benefits associated with a particular good.

The main spillover effects from participation in physical activity are:

- There is significant evidence that **improved health outcomes**, and lower health costs, are attributable to increased rates of physical activity within the population.
- On balance, physical activity, particularly participation-oriented team sport, is likely to **improve society's sense of community**.
- Multi-modal programmes, with a physical activity component, can **reduce the risks of anti-social or self-destructive behaviour among youths**.
- Physical activity **increases worker productivity**.
- Increased physical activity has an **ambiguous effect on environmental quality**; it may increase conservation efforts but also increase traffic to reserved habitats.

The benefits of physical activity that have public good characteristics are:

- The “New Zealand” brand that allows New Zealand tourism and products to associate themselves with the outdoors, sports and adventure lifestyle.
- Sport and physical leisure are an important part of the cultural identity of many New Zealanders.

The existence of market failure does not in itself support government intervention. One important consideration is the impact any intervention could have in terms of the priorities the government has identified.

Table 1 shows that encouraging participation in physical activity of sport, fitness and leisure aligns with government priorities.

A number of interventions are possible, including school-based programmes, public education campaigns, marae-based interventions and youth training programmes. Although in principle there is an argument for government intervention, more detailed cost-benefit analysis of specific interventions, including comparison with alternatives, is required before a final conclusion can be reached on the social impact and fiscal prudence of intervening.

Table 1 The fit of physical activity with government goals

Government Goal	Relevance of Sport, fitness and leisure
Strengthen national identity and uphold the principles of the Treaty of Waitangi	<ul style="list-style-type: none"> Physical activity particularly through sport and adventure is an important part of the New Zealand culture On balance, participation in physical activity enhances social cohesion and strengthens communities Protecting the natural environment in a way that understands and respects Maori beliefs is important to the New Zealand identity, physical activity has an ambiguous effect on the environment.
Grow an inclusive, innovative economy for the benefit of all	<ul style="list-style-type: none"> Physical leisure contributed \$886m to GDP in 1999 Worker productivity and motivation is enhanced by participation in physical activity Tourists are attracted by major sporting events and New Zealand's image as an active nation Goods exports are also boosted by a physically active "brand" image of New Zealand
Restore trust in the government and provide strong social services	<ul style="list-style-type: none"> Lack of physical activity is a risk factor for poor health outcomes Participation in physical activity mitigates against the risk of poor justice outcomes and unemployment
Improve New Zealanders' skills	<ul style="list-style-type: none"> Physical activity motivates people to train and seek work Physical activity improves concentration and motivation of students 19.6% of the adult population volunteered in the physical leisure sector in 1999, the experience they gained is transferable to other environments
Close the gaps for Maori and Pacific people in health, education, employment and housing	<ul style="list-style-type: none"> Maori have particular risks with respect to health, welfare, education and justice outcomes. Maori, particularly males, are also less active than the average population. Increasing activity may help to "close the gaps"
Protect and enhance the environment	<ul style="list-style-type: none"> Physical leisure has ambiguous environmental effects: encouraging protection of natural areas, but increasing wear and tear through increased visiting

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1. INTRODUCTION

Sport, fitness and leisure are not things that immediately spring to mind when asked what areas the Government should concentrate on. However, when one focuses on the key goals that the Government has identified for itself it is clear that these activities can play a part in their achievement. Our sporting prowess strengthens our sense of national identity and allows our small country to leave a large footprint on the world stage. When we play together or enjoy our leisure hours together we grow as a community. Sport, fitness and leisure contribute to our mental and physical wellbeing. The business of sport, fitness and leisure is more significant than many appreciate and it's growing.

The Government has initiated a review of sport, fitness and leisure. It aims to define a vision for the sport, fitness and leisure sector that will meet the needs of New Zealanders over the next 25 years. It has established a Ministerial Taskforce to define that vision, and identify the necessary strategies to encourage and sustain the interest, participation and achievements of New Zealanders.

This report examines the appropriate role for government in the sport, fitness and leisure sector and whether that role is a priority for the current administration. Section 2 outlines the economic framework that underpins the analysis. Section 3 applies that framework to the sector, describing the economic basis for government intervention in physical activity levels. Section 4 describes the government's current role in the sector and lists possible interventions. Section 5 sets out the government's stated priorities and considers the fit of the outcomes identified with those priorities.

2. ANALYTICAL FRAMEWORK

2.1 Reasons for government intervention

In an economic framework, there are two broad grounds for government intervention in the market: efficiency and equity. Efficiency relates to the allocation of production resources, while equity is concerned with the distribution of the resulting benefits throughout society. With respect to sport and leisure, the reasons for possible government intervention fall into four broad sub-groups of these: market failure, imperfect information, merit goods and equity of access.

2.1.1 Market failure

A freely operating market may produce outcomes that do not measure up to what is "socially optimal". This means that by reallocating resources society as a whole could be made better off, without making any individual worse off. For example, this could mean that the current level of participation and success in sport and leisure is not giving results consistent with the best outcome from the perspective of the whole of society.

Market failures relating to sport and leisure are likely to be either because of the public good nature of the benefits, or because of spillover effects. Let's consider each of these in turn.

a) Public goods

Most goods that are bought each day are private goods. Private goods have the following characteristics:

- Rivalrous – consumption by one person means that there is less available for another person.
- Excludable – it is possible to prevent a person from enjoying the benefits of a private good.

There are many examples of private goods; one example is an icecream. It is rivalrous, since if I eat it you cannot, and excludable since I can stop you from eating an icecream I bought.

The opposite of a pure private good is a pure public good. An example of a pure private good is street lighting. It is non-rivalrous since my “using” the light does not reduce the amount of light available for you, and non-excludable since I cannot stop you from using the light.

The problem with public goods is that, if left up to the free market, an insufficient amount of the good would probably be produced. This is because, although the cost of producing the output is not zero, it is not possible to charge the individual for their consumption.

This is often called the “free-rider” problem: because no-one can be excluded from enjoying the benefits of a good, even if one person contributes less to the cost of providing the good, the amount available for them to consume is not reduced.

It is relatively unusual for a good to be a “pure” public good. However, many goods have elements of public goods. For example, a swimming pool is non-rivalrous (up to a capacity constraint), but it is excludable by putting up a fence and charging a fee. Goods that are excludable but non-rivalrous are called club goods. Conversely, a good that is non-excludable but rivalrous is known as common property. Fish in the sea are an example of common property.

Some goods have a range of benefits. For example, inventions create private wealth for the individual inventor but may also engender feelings of national pride. Goods that give rise to both public and private benefits are called mixed goods.

Figure 1 Classification of goods

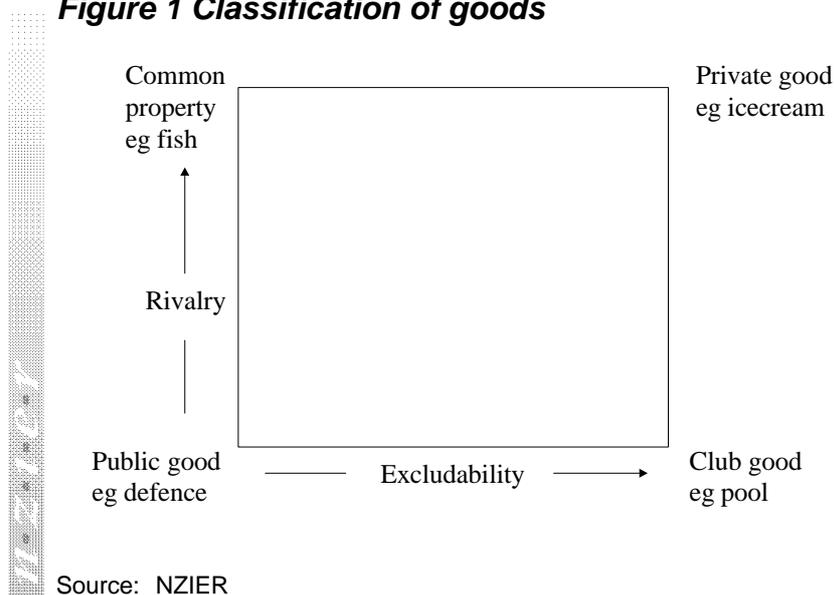


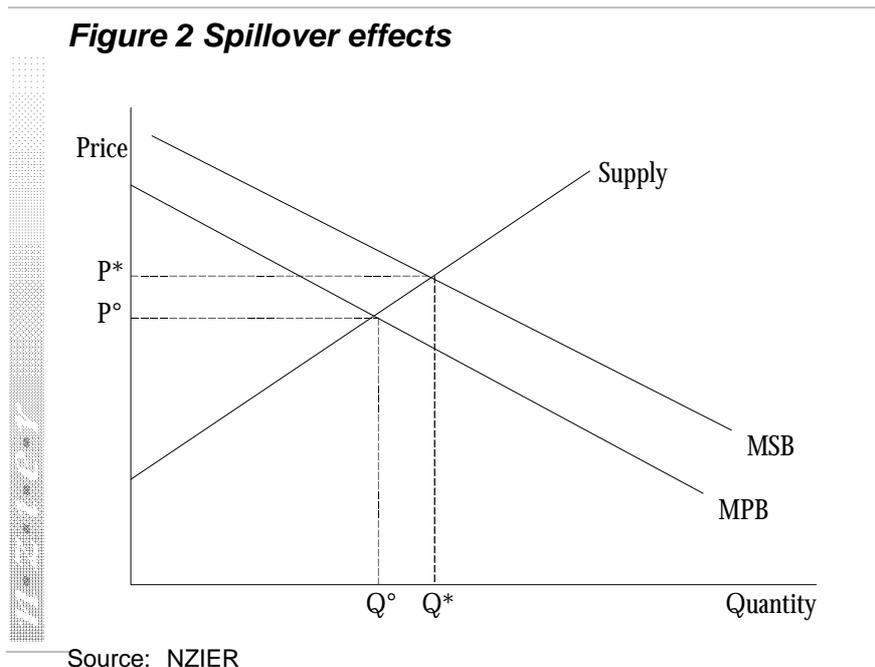
Figure 1 summarises the relationship between types of goods in terms of excludability and rivalry.

b) Spillover effects

A spillover effect, or “externality” occurs when the actions of one person impose costs or benefits on another. An example of a positive externality is immunisation: the whole population benefits from the reduced risk of disease you incur by getting immunised (including lower disease treatment costs). But you are not compensated for these gains to society, as you only receive the private benefits of reduced risk to yourself (although you could conceivably derive philanthropic benefits by knowing someone else is immunised, and at less risk of disease).

The existence of positive (negative) external effects will lead to a level of consumption below (above) that which is socially optimal.

This is illustrated in the diagram below. The level that the market would supply corresponds to the quantity Q^0 , where the marginal cost of supplying the good is equal to the marginal private benefit (MPB) that the consumer derives. The marginal private benefit can be thought of as the price the individual would be willing to pay for an additional unit of the good. An optimal level of production occurs when the marginal benefit derived from the last unit produced is equal to the cost of producing it.



In the diagram, the marginal social benefit (MSB), which is the benefit society as a whole would receive from production of the good, is higher than the benefit received by the individual who actually consumes it. This means that if society could be charged for the good, the quantity Q^* would be produced. This is referred to as the socially optimal quantity since it is the amount that balances the social benefit of production against the cost.

2.1.2 Imperfect information

The second reason that the government may wish to intervene in sport and leisure choices is that people may have insufficient information to enable them to engage in

the economically optimal level of activity or consumption. Information inadequacies with respect to sport, fitness and leisure could conceivably be regarding:

- The future;
- The benefits of exercise;
- Their own health status.

When consumers have incomplete information on which to base a decision they will not necessarily make the optimal choice. Providing additional information to poorly informed consumers can therefore increase welfare.

2.1.3 Merit goods

A merit good is one which is deemed to be intrinsically desirable. These are goods that it is argued consumers should be compelled to consume an “adequate” quantity of because they do not know what is best for them. Education is a commonly cited example of a merit good. A variant on this argument is that consumers delegate to the government decisions that they do not feel competent to make themselves.

Intervention can take a number of forms including subsidisation to encourage consumption, or regulation to force people to consume more. Society’s preferences are therefore given superiority to the individual’s preferences.

2.1.4 Equity of access

The final rationale for government intervention is that access to a certain good or service is inequitable, that is, it is not fair. Equity should not be confused with equality as one does not necessarily imply the other. Government intervention for equity reasons relates to “distributive efficiency”. It is concern for “who gets what”, with the aim of maximising the total utility of society. In a free market, distribution is based on willingness to pay. On the other extreme, in an egalitarian society, everyone would receive equal shares, regardless of their need or even perhaps demand.

2.2 Types of government intervention

In general, there are a number of mechanisms that governments use to intervene in markets.

- Regulation – this involves passing laws requiring or outlawing certain actions by private citizens.
- Public finance – the government may choose to fund a good or service directly using taxation revenue. This could include buying information services to inform the public about the consequences of their actions.
- Public production – the government can directly produce a good or service. This has become less common recently as governments recognise that the private sector is better able to manage production processes. It is more common for the government to facilitate production, perhaps by providing a mechanism for introducing investors to people with ideas, or facilitating networks that enable firms to work together on common goals.
- Income transfers – cash transfers from one individual to another, intended to allow the beneficiary of the transfer to afford some goods or services. This is a less direct intervention since beneficiaries are still able to choose exactly what they do with the additional income.

3. HOW DOES THE FRAMEWORK APPLY TO SPORT?

3.1 What is “sport, fitness and leisure”?

The Sport, Fitness and Leisure Amendment Act 1992 (the Act) set up the Hillary Commission. Given the Hillary Commission’s role as the primary government agency funding sport, fitness and leisure, the definitions of sport, fitness and leisure from that Act are an appropriate place to begin. From section 3 of the Act:

‘Fitness’ means physical wellbeing resulting from participation in sport and leisure activities;

‘Leisure’ means physical activities or physical pastimes engaged in in New Zealand for the purposes of relaxation or enjoyment; ...

‘Sport’ means sport played, formally and informally, in New Zealand ...

So in summary, sport includes formal and informal sports, and leisure includes any physical activity undertaken that is not sport and that is not undertaken as a component of work; fitness is the physical impact of engaging in sport or other physical leisure activities. Sport and leisure therefore in this context describe a wide range of activities including athletics, team sports, water sports, cycling, tramping, walking, horse riding, gym membership, gardening, golf and hang gliding. It does not include passive leisure activities such as reading, going to music or other concerts or board games.

In this report, the expression “physical activity” is used to summarise what is implied by sport, fitness and leisure.

3.2 Market failure in sport and leisure

This section will consider to what extent sport and physical leisure activities have aspects of public goods, or spillover effects. It will show that spillover effects are relatively important in a physical activity context. Some leisure activities also have aspects of public goods.

3.2.1 Spillover effects

The main categories of spillover effects from increased physical activity of the population are:

- Health costs;
- Social cohesion;
- Youth at risk;
- Economic; and
- Environmental.

Each of these categories is dealt with in turn below.

a) Health costs

There is a vast literature on the positive health effects of frequent, moderate intensity exercise. This section is not intended to summarise this literature but rather to reflect the flavour of what has been written. For the interested reader, the *Benefits Catalogue*

(Canadian Parks/Recreation Association, 1998) provides an excellent summary of the international literature. For a New Zealand perspective, the reader should consult the National Health Committee's (NHC) 1998 report *Active for Life: A Call for Action*.

Some of the positive health benefits of physical activity cited in these publications include:

- Reduction in the risk of dying prematurely from heart disease and stroke;
- Reduction in the risk of developing high blood pressure, non-insulin dependent diabetes, site specific cancer and osteoporosis;
- Longer, more independent life; and
- Improved mental health.

The NHC report indicates that 7,800 people die each year of coronary heart disease, colon cancer and diabetes. One sixth to one fifth of these are attributable to physical inactivity. If the whole population became physically active, there would be between 1,300 and 1,560 fewer deaths as a result of these diseases each year.

The NHC (1999) believes that the sedentary lifestyles of New Zealanders and the spread of overweight/obesity could be emerging as a public health issue second only to smoking. This view is shared by Stephenson et al (2000) who suggest physical inactivity is a risk factor for poor health outcomes comparable to tobacco use or poor diet.

According to the 1996 Sport and Physical Activity Survey undertaken by the Hillary Commission over one third of adults (950,000) can be described as inactive. Inactivity is defined as taking part in less than 2.5 hours of leisure-time physical activity in a week. About 48% of people are highly active, that is they are active for 5 hours or more each week.

Stephenson et al (2000) have estimated the proportion of disease outcomes in Australia attributable to being inactive. These are likely to be slightly higher than the comparable rates in New Zealand since a higher proportion of Australians are described as "insufficiently active" in terms of the study (44% compared to 36% of New Zealanders who are inactive).

The Stephenson report focuses on six conditions for which there is reasonably strong epidemiological evidence of a causal relationship between physical inactivity and incidence of the disease. These six conditions are: coronary heart disease, non-insulin dependant diabetes mellitus, colon cancer, breast cancer, stroke and depression. Conservative estimates in the study suggest that 18% of coronary heart disease conditions were attributable to physical inactivity, for stroke the proportion was 16%, 13% for non-insulin dependant diabetes, 19% for colon cancer, 9% for breast cancer and 10% for depression symptoms. Physical activity was estimated to contribute to 6,400 deaths per annum in Australia from coronary heart disease, non-insulin dependant diabetes and colon cancer, and a further 2,200 from other conditions. The annual direct health care cost attributable to physical inactivity is around AU\$377 million each year.

It is further estimated that gross savings of AU\$3.6 million in health care costs could be achieved for a 1% gain in the proportion of the population who are sufficiently active. The cost of implementing programmes to encourage activity should be netted off this figure.

There is significant evidence that improved health outcomes, and lower health costs, are attributable to increased rates of physical activity within the population.

b) Social cohesion

Pioneering and highly influential research on social cohesion and social capital was conducted by Robert Putnam. Social capital refers to the nature of social ties and networks within a community, and relates to the extent of “horizontal organisations” or collective action (Temple, 2000). He found that participation in community organisations, such as sports groups, fostered co-operation, shared responsibility and social trust. Putnam (1993) examined the density of sports clubs in Italy, and drew connections between membership of clubs and a measure of “civic community”. The potential spillover benefits from social networks such as sports clubs span the levels of societal interaction.

There is mixed evidence specifically relating to New Zealand on the impact of physical activity on social cohesion within families and communities. The remainder of this section is based on research by the Business Research Centre (1998).

Physical activity can improve socialisation, depending on how the programme is presented. Whether the outcomes are seen as positive depends on the perspective of the researcher. Some may have a preference for achievement-oriented goals and individualism, while others prefer co-operative outcomes. Depending on whether the activity is competition-oriented or participation-oriented, the relations between participants may evolve differently. Participation-oriented sport is more likely to have positive outcomes in terms of improving social networks.

Similarly, sport may also be character-building, although it is not clear whether values of “fair play” are always instilled, given the violence exhibited by some players of sport.

Self-esteem is also affected by participation in physical activity. Again the result is dependent on the way the programme is managed. It can be the case that self-esteem is damaged if the participant feels that their inadequacy is emphasised through the activity. As before, this can relate to whether the activity is competition-oriented or participation-oriented.

As well as influencing the individual’s socialisation, physical activity, when done in a family group, is generally thought to enhance family bonding. At a broader level too communities are strengthened by shared physical activities. Sports teams and clubs replicate a sense of community. In 1998, 19.6% of the adult population volunteered in some role in sport (BERL, 2000). Participants generally improve their social networks, have greater pride in their community and are more likely to identify with their community. However there is some evidence that suggests that sport reinforces existing class differences.

Socialisation is the focus of some interventions that help reduce crime. Sherman et al (1998) conclude that organisational development in schools and building school teams reduces crime and delinquency. Social competency curricula in schools also have a role to play in reducing crime. Community-based after school recreation programmes have promising characteristics in terms of reducing juvenile crime in the area near the recreation centre.

On balance, physical activity, particularly participation-oriented team sport, is likely to improve social capital, cohesion and a sense of community.

c) Youth at risk

Like many other countries, New Zealand has problems with youth at risk of anti-social or self-destructive behaviour. There is evidence to suggest that programmes that

involve physical activity can help reduce the risks for these youth. The reasons put forward to explain why delinquency is reduced by physical activity are varied. They include the idea that youth who commit petty crime are bored and that sport allows youths to expend energy. Other theories are that sport removes youth from their at-risk sub-culture substituting a socially acceptable peer group and that it provides the high level of stimulus needed by delinquent youths.

The main risk factors for young offenders are (Ministry of Youth Affairs, 2000):

- A lack of social skills and networks;
- A lack of motivation;
- Poor school attendance, low vocational skills and unemployment;
- Substance abuse;
- A lack of cultural pride or a positive cultural identity.

Positive interventions with young offenders are generally multi-modal, that is they address a problem in a number of ways. They also tend to target more than one problem at a time. The study by Friedlander et al (1997) showed that few youth employment programmes have positive labour market outcomes and reinforced the importance of a multi-modal approach.

The New Zealand Conservation Corps and Youth Service Corps are programmes run by the Ministry of Youth Affairs that target unemployed youth. The purpose of these programmes is for young people “to get involved in conservation or local community projects and to learn new skills through education and challenging recreation.”¹ Six months after the programmes that finished in December 1999 43.6% of Conservation Corps members and 40.4% of Youth Service Corps members were in employment. One issue with the Ministry of Youth Affairs’ evaluation is the lack of a control group – it is not known how well this group would have achieved in the absence of the programme.

An Australian study by Miller (1998) emphasises the importance of the family and community in achieving positive employment outcomes for youth. The implication is that support for strong families and communities is important. This is something that can realistically be encouraged through sport.

Role models, including sporting role models have also been shown to have a positive impact on young offenders and other youth at risk (Ministry of Youth Affairs, 2000). Programmes like Project K, which is a development programme for 14 year olds sponsored by government and the corporate sector, use this mentoring approach in combination with physical activity to great benefit.

d) Economic effects

By increasing participation in sport there would obviously also be increased economic activity relating to the sport and physical leisure sector. BERL estimated that in 1999, the real value added (i.e. the contribution to GDP) of the physical leisure industry was \$886 million. In 1999, 22,489 full time equivalent jobs related to the physical leisure sector.

There is international evidence that physically active worker take fewer days off work, are more productive and have fewer accidents while at work. Concentration and learning of school students is also enhanced by physical activity.

¹ www.youthaffairs.govt.nz

Outdoor activity has become a popular method of team-building for employers. There is evidence that group-focused skills such as communication, decision making, teamwork and group management as well as personal growth skills, such as trust, honesty, motivation and confidence are enhanced by outdoor based activities (Bradbury, 2000).

Research by Canadian Parks/Recreation Association estimates that a 25% increase in the 1995 physical activity participation rate would increase labour productivity in the Canadian economy by between 0.25% and 1.5%. The same study reports research that shows that more than 60% of companies with physical activity programmes reported increased productivity, better employee relations, improved morale and fewer accidents. Averaging across studies the study reports that regular physical exercise reduces absenteeism by 1.6 days, saving 1.1% of total wage costs.

A report by the New Zealand Physical Activity Taskforce (1998) suggested that active students have improved concentration, enhanced memory and learning, enhanced creativity, better problem solving ability and improved mood for up to two hours following physical activity.

The Department of Work and Income runs the “Residential Motivational Training Programme” which is a group of courses that focus on improving participants’ self-esteem and motivation to work through intensive, residential, outdoor, education-based training. It is targeted at 18-25 year olds. An evaluation of the programme in 1998 by the Centre for Operational Research and Evaluation at the Department of Work and Income, showed that the programmes result in:

- a sustained increase in self-esteem and motivation to work;
- an increase in participants’ skills and resources for finding work;
- an increase in the number of hours they spent searching for work;
- an improvement in personal relationships, and communication skills; and
- a greater awareness of the impact of the home environment on job search capability.

The programme was found to have a particularly positive impact on the uptake of training, probably because of the increased motivation of participants.

e) Environmental effects

Some researchers suggest that by maintaining parks and other outdoor venues for physical activity, ecological benefits are indirectly supported. Environmental education is improved, biodiversity is supported, air quality is enhanced and ethics relating to stewardship of the land are encouraged (Canadian Parks/Recreation Association, 1998). This may have particular cultural relevance to Maori.

Canadian research has shown that people experience improved welfare just by being in areas close to nature. Eight-five percent of survey respondents reported that they found such areas relaxing (Canadian Parks/Recreation Association, 1998).

Although the maintenance of national parks has environmental benefits, if it encourages more people to visit them then it also has negative environmental effects. They include:

- Increased congestion of sites;
- Increased wear and tear on tracks, and hence need for additional maintenance;
- Increased traffic to sites.

So although more visitors to environmental sites may increase tourism revenues, and justify increased expenditures in this way, there is an ambiguous net effect on environmental quality.

3.2.2 Public goods in sport and leisure

Some of the most common examples of goods with public benefits are from the physical leisure sector. National parks, swimming pools, reserves, beaches and walking tracks all have aspects of public goods.

a) Tourism and exports

There are also some slightly less obvious public goods associated with sport and leisure. Perhaps most importantly is the “New Zealand” brand. Around the world, New Zealand as a country is associated with the outdoors, sport and adventure activity. This brand image benefits many people. The international tourism sector in New Zealand was estimated to have made \$2.9b direct contribution to GDP in 1995 (Statistics New Zealand, 1998). Over 310,000 people are employed by businesses that supply tourism demand. This brand and the advertising that comes from having successful sports people and a clean, green country with world-renowned walking tracks are public goods since no one can be excluded from enjoying the benefits and those benefits are non-rival.

Large events held in New Zealand such as the America’s Cup, the Tri-Nations, the New Zealand Golf Open, the Bledisloe Cup and other international competitions also lure tourists. Indeed it is the impact on tourism and international profile that makes international sporting events so sought after by nations and cities around the world.

A study for the Office of Tourism and Sport (OTSp) found that the America’s Cup brought \$640m into the New Zealand economy, creating 10,620 new jobs. While the accuracy of these numbers is questionable, the net benefits are still likely to be large. A separate report found that the Cup received 1,948 hours of worldwide television coverage and 13 billion internet hits. Estimates of the number of tourists that came to New Zealand for the Cup vary, with the OTSp report estimating that over 35,000 international visitors were influenced to come for the event. Over 1,500 media also attended, two thirds from offshore.

The rationale for the promotion of New Zealand as a tourist destination being a public good is straightforward: if a single business promoted an event in New Zealand or New Zealand’s environmental brand it could not stop the benefits from being shared with the rest of the tourism industry.

The same argument is not as compelling for the association of the New Zealand lifestyle and “brand” with other products. Awareness of New Zealand and the success of our sports people raises international awareness of New Zealand and is plausibly beneficial for any product that identifies itself as made here. However, individual companies are able to associate their product with particular sports people or images of New Zealand.

The New Zealand Way brand is one way that smaller businesses have been able to use the New Zealand image. The idea is similar to shops in a mall clubbing together to advertise the mall. For a fee of \$500-\$10,000, businesses are able to identify themselves as being accredited to carry the brand identity – the “Fern Mark”.² In excess of 190

² A revised design of the fern mark has recently been promulgated. Originally, a white fern leaf against a blue and green background, it is now a more stylised black and white fern leaf.

businesses are “licensed brand partners” entitled to use the Fern Mark. The New Zealand Way is promoted by the Trade Development Board and the New Zealand Tourism Board and illustrates that the government may just need to provide organisational support. This shows that not all aspects of New Zealand branding are public goods. Over 190 businesses are licensed brand partners and carry the Fern Mark.

b) National pride

National identity is an expression of the differences between people based on the perception that they belong to different national communities. To many New Zealanders physical activity is an important expression of the New Zealand culture.

Physical activity by our high performance athletes contributes to national identity and pride in being a New Zealander. A 1990 survey of our values suggested that New Zealanders are very nationalistic. Sporting success makes the average New Zealander proud of our country. This is evidenced by the reaction to New Zealand winning and retaining the America’s Cup, and the feeling that those sailors who went on to pursue their ambitions in other parts of the world were somehow traitors to their country. The national despair over the relatively poor performance of our athletes at the Sydney Olympic Games also illustrates the importance New Zealanders place on physical prowess.

National identity is a public good: it is non-rival and non-excludable. Many goods that produce feelings of national pride are mixed goods, that is they also have private benefits. The government should only intervene if an insufficient quantity of the good is produced.

3.2.3 Imperfect information

It is possible to argue that people may not be aware of the impact that moderate physical activity could have on their life, in terms of improved health, greater motivation and productivity at work and stronger social support networks, or of the potential dangers of not engaging in physical activity. Government could have a role in educating people about the benefits to themselves, and to their community of undertaking moderate physical activity.

3.2.4 Merit goods

Although physical activity could be considered a merit good, in Western culture the hurdle for such an argument to be sufficient to support government intervention is high. The reason for this is that Western cultures generally shy away from over-riding consumer sovereignty, in other words the consumer is, in general, considered the best judge of the way they should spend their time and resources.³

Forcing people to consume physical activity-based leisure involves a series of value judgments: how active should people be forced to be, should everyone do the same amount of exercise regardless of other considerations such as health, how would you implement it (what sort of activity would be used), and what would the decision process be? Most New Zealanders would be unhappy with such value judgments being imposed on them.

³ There are exceptions to this, the most notable of which is education. A minimum school leaving age is set on the basis that education is a merit good and everyone should be forced to consume a certain amount of it.

3.2.5 Equity of access

In order to ascertain whether distributive equity is a suitable justification for government intervention in physical activity, it is helpful to identify any barriers to entry, or participation in these activities. There is a wide range of sport and leisure activities, participation in which can bring about some of the benefits discussed above. For many of these activities, there are no significant barriers to entry which the government could do anything to address. These include activities such as walking or jogging, or entering a national, or public park.

Other activities, such as joining a private gym or golf club, have membership or entry fees which may well be a financial barrier to many people. However, such activities can be regarded as “normal” goods, consumption of which will rise as income increases. Some activities, such as yachting, could even be considered a “luxury” good, where, as income rises, its consumption forms an increasing proportion of income. The cost of participating in golf, or yachting, does not preclude people from exercising *per se*.

Moreover, some of the barriers to participation are not exclusive to high-cost activities. They include:

- Opportunity cost (work, family commitments);
- Travel cost;
- Childcare.

Such barriers are highly specific to individuals, and do not provide an appropriate rationale for government intervention.

4. APPROPRIATE INTERVENTIONS

4.1 What is the government’s current role in physical activity?

The government currently funds physical activity through a number of votes. These include Vote Sport, Fitness and Leisure, Vote Racing, Vote Conservation and Vote Education. There is no overall strategy for this area and there is little co-ordination in the use of this funding. The establishment of the Ministerial Taskforce on Sport, Fitness and Leisure provides an opportunity to develop an over-arching strategy.

The most obvious vote related to this area is Vote Sport, Fitness and Leisure. In 2000/01, this vote was appropriated \$2.622m. Of this:

- \$0.580m is for policy advice from the Office of Tourism and Sport, which is part of the Ministry of Economic Development.
- \$0.992m is for the provision of drug testing of sports people purchased from the New Zealand Sports Drug Agency.
- \$1.000m is for sports scholarships for young sports people to enable them to pursue post-secondary education while training.
- \$0.050m is available as discretionary funding for groups and individuals unable to get other funding to participate in sport, fitness and leisure activity.

The government provided \$1m in 1999/2000 for the Sydney Olympic team and \$16m of additional funding for one year for NZ teams and athletes performing in “key international sporting events” through Vote Sports, Fitness and Leisure.

Vote Conservation also forms an important plank of the government's strategy for spending on the physical leisure sector. Of the total vote of \$201.1m, \$185.8m is spent on purchasing services from the Department of Conservation. Most of these services relate to the management of conservation estates and habitats for protected species and the protection of historic resources and indigenous biodiversity. \$63.9m is spent specifically on visitor centres and information services for the public. Vote Conservation spending allows for the protection and maintenance of tracks and other natural environments that are publicly available for physical leisure activities.

Vote Racing is a small vote covering policy advice relating to running an effective, efficient and appropriately regulated racing industry. The \$0.365m vote includes advice on race and sports betting.

Schools are also involved in the provision of physical activity through the school curriculum. This effectively means that young people's involvement in physical activity is regulated. It is also funded by government. Although the precise level of this expenditure cannot be measured, BERL estimate that \$36.594m was spent on extra curricular sport in 1999/2000. Curriculum based activities are clearly excluded from this measure. The Health and Physical Education Curriculum is the new national statement that will impact this area. There is further detail on this curriculum in section 4.3.1 .

Table 2 NZ Lottery Grants Board allocations, 2000/01

Dollars, thousands

Lottery aged	3,120
Lottery community facilities	10,250
Lottery general	11,250
Lottery health research	3,110
Lottery welfare	11,080
Lottery welfare/individuals with disabilities	3,200
Lottery youth	5,220
Lottery environment and heritage	9,090
Minister's discretionary fund	350
International Year of Volunteers	500
Lottery Marae heritage and facilities	5,790
Hillary Commission	27,080
High Performance Sports Fund	3,810
Creative New Zealand	20,310
Arts Foundation of New Zealand	100
New Zealand Film Commission	8,801
Total	123,061

Source: Department of Internal Affairs

The government funds the Hillary Commission through Vote Sports, Fitness and Leisure and also indirectly through the profits from state lotteries such as Lotto, Instant Kiwi and Daily Keno. The NZ Lottery Grants Board distributes funding from these profits through a variety of committees and agencies. It is difficult to estimate what percentage of this funding would be applied to physical activities since a number of community groups that apply for funding through different committees are likely to use the funds for sports-related activities. The Hillary Commission is guaranteed 20%

of the funds. Lottery Youth and Lottery Aged also fund development programmes that may have a significant physical activity component.

The Hillary Commission is the primary government agency that promotes and funds sport, fitness and leisure activities. Its programmes include “push play” a nation-wide, three year campaign to get all New Zealanders involved in physical activity for 30 minutes each day. The aim of the programme is to increase the number of people who are regularly active by 10% (compared to 1996) by the end of 2000. The Hillary Commission works with regional sports trusts and local authorities to achieve its goals.

Sportsnet is the umbrella organisation for the 17 regional sports trusts that are scattered throughout the country. The trusts are contracted by the Hillary Commission to provide sports and community based leisure programmes.

Major Events NZ Ltd (MENZL) was established in July 1997 as an initiative of the Ministers of Tourism and Sport, Fitness and Leisure. It is a limited liability company and is funded by the New Zealand Tourism Board and the Hillary Commission. MENZL describes its role as “major event development, advice to Government and developing strategies and resources to enhance New Zealand’s ability to attract and stage major events.”⁴

The NZ Sports Foundation is an independent entity funded primarily by the Government, through the Hillary Commission, but which also receives funding from the private sector. Funds are distributed to any sport or individual that demonstrates the ability and potential to produce results at key international events based on a set of criteria that ranks both the importance of the event to New Zealand, and the ability of the individual or sport to achieve results at those events.

NZ Academy of Sport is a newly established national network of high performance sports centres set up by the New Zealand Sports Foundation to meet the needs of our best sports people and emerging talent. The Academy will provide facilities, equipment and support services to enable New Zealanders to compete at high levels. The government has provided \$16m funding over 4 years.

Local authorities provide community facilities such as swimming pools, parks and recreational services, they maintain waterways and roads and implement by-laws and policies that affect recreational users. Local councils are also responsible for the allocation of the Community Sport Fund provided by the Hillary Commission.

4.2 How are “best” interventions identified?

The best intervention a government can make is:

- Effective – that is it advances individual and social outcomes;
- Efficient – it makes the best use of available information and resources both now and in the future;
- Equitable;
- One that minimises transaction costs – in terms of not crowding out other initiatives or introducing more distortions than it overcomes; and
- One that minimises the fiscal cost of achieving a particular outcome.

It is not sufficient reason for government intervention in a market that there is evidence of market failure. The government must be satisfied that the intervention is

⁴ Office of Tourism and Sport (1999)

appropriate. It is not possible in one paper to complete a rigorous analysis of all the possible government interventions that would increase physical activity. Any particular intervention should be subject to a cost benefit analysis.

Cost benefit analysis (CBA) can be seen as an adaptation of the financial analysis that would be undertaken by a business to determine the relative profitability of different investments. Instead of maximising profits, CBA is concerned with maximising social welfare, the net economic cost borne by all those who are affected by the decision. CBA recognises costs that do not enter private financial flows in terms of opportunities foregone, for example, turning council land into a reserve may not involve any direct cost to the council but an opportunity cost will be incurred in terms of commercial development options. There may also be benefits outside the observable market transactions. For example, some people may perceive a benefit in having access to a reserve, even if they never visit it.

CBA is sometimes called economic efficiency analysis since it provides a measure of total utility (economic well-being) derived from a particular activity or resource by all individuals in the community and sets them against aggregate costs. Inputs are valued at their potential value in other applications (opportunity cost); outputs are valued at the community's willingness to pay for them.

The first step in a CBA is the identification of the objective of the intervention. The precise nature of the goal, whether to reduce health costs or decrease criminal recidivism for example, will affect the programme chosen. In undertaking a CBA, inter-agency co-operation will help to ensure that costs and benefits are identified as accurately as possible using individual agencies' different expertise.

The nature of the goal is likely to change the make-up of any inter-agency team, with the Department of Conservation, Ministry of Education, Ministry of Youth Affairs, Justice agencies, Ministry of Health, Ministry of Social Policy and others having expertise in different areas. The Office of Tourism and Sport and the Hillary Commission have particular knowledge of the potential role of sport in government sponsored programmes.

Once the goal of the intervention has been established the CBA can be undertaken. Conducting a CBA involves:

- identifying all relevant effects of a policy;
- quantifying and valuing these effects, and sorting them into costs and benefits;
- reducing effects which occur at different periods into commensurable monetary units, through a process such as discounting to present values; and
- testing the sensitivity of the results to changes in key values or assumptions made.

There are three alternative decision rules for accepting a project under CBA. All these involve considering the timing and duration of costs and benefits, and discounting these to reflect their present value. This allows all costs and benefits to be summarised as a single "net present value". Alternative decision rules are therefore:

- selecting the activity with the highest net present value;
- selecting a project if the ratio of present value benefits to present value costs exceeds 1, under certainty (or some other pre-determined acceptable ratio greater than 1, under uncertainty); or
- accepting a project providing it has a positive net present value.

In the physical activity sector, as is often the case, costs are likely to be easier to identify and quantify than benefits. An *ex ante* examination of the size of the benefits is

important, but it may be that a pilot is necessary to determine whether a promising programme is in fact effective.

An example of an issue that could be addressed with a programme that has a physical activity component is recidivism among young offenders. Costs of a residential programme aimed at young offenders would include the direct cost of the programme, for example board, equipment and personnel costs, as well as indirect costs, such as the feeling experienced by the neighbours of a residential unit that they are less safe. The benefits might include the reduced cost to victims of future crimes that would otherwise have been committed, the saving on future corrections costs, any intergenerational benefits (in terms of breaking the cycle of disadvantage) and improving the employment prospects of participants. This example illustrates the difficulty in accurately quantifying all costs and benefits.

The risk of government failure needs to be managed. A government failure occurs where an intervention introduces more distortions than it overcomes. In the physical activity area this might occur if:

- Government spending displaces private spending either by the individual or a corporate sponsor.
- A sport or physical leisure activity is targeted that is unlikely to be adopted by many people.
- Spending occurs on campaigns that have a low likelihood of increasing physical activity.

4.3 Possible interventions

Recall from section 2.2 that the four main tools a government can use to intervene in a market are:

- Regulation;
- Public finance;
- Public production;
- Income transfers.

Given that it is not possible to undertake a ground-up analysis of all plausible interventions, this section will detail overseas and New Zealand experience on what is effective.

4.3.1 Schools

The national curriculum statement, *Health and Physical Education in the New Zealand Curriculum*, provides a framework for teaching students about sport, fitness and leisure. This curriculum is not expected to be fully implemented until about 2010.

The curriculum is based on four concepts:

- Well-being, Hauora – exploring the impact of activity on all aspects of well-being.
- Health promotion – involvement in community processes to create supportive environments.
- Socio-ecological perspective – the interdependence of factors that influence activity decisions.
- Attitudes and values – with regard to self-image and respect for others, this also incorporates social justice ideas.

The Ministry of Education will fund professional development and materials to assist teachers in the implementation of the curriculum. The Ministry also provides some support for facilities, either through subsidies or by providing facilities for larger schools. Operational funding for physical education is untagged in the per pupil general funding that schools receive.

Some schools have daily fitness programmes, teach activities with cultural links such as kapa haka and provide extra-curricular activities. Physical activity in schools has a number of benefits:

- It teaches the habit of exercise. This is an effective way of encouraging the next generation of adults to be more physically active (Office of Tourism and Sport, 1999).
- It improves concentration in the classroom (New Zealand Physical Activity Taskforce, 1998).
- It allows students to develop social networks (Ministry of Education, 2000).
- It can help retention at college level (Ministry of Education, 2000).

4.3.2 Education campaign

There is evidence that health promotion is of limited benefit in the absence of a wider strategy (National Health Committee (1998)). Some types of promotion, especially attempts to modify behaviour through mass media campaigns are more successful with higher socio-economic groups. For example, there is some evidence that smoking cessation advertisements are more effective amongst higher socio-economic groups. Thus although the overall population's rate of smoking is reduced, the difference between the rates for higher and lower socio-economic groups is widened.

The message is that information alone does not work for individuals with low socio-economic status, who tend to be more at risk of poor health outcomes anyway. Other measures are needed to have an impact on intermediate risk factors, including physical activity. It is also more effective if interventions are linked to steps to improve the root cause of the problem, i.e. income and education.

4.3.3 GPs – Green Prescriptions

New Zealanders visit a doctor four times a year on average (National Health Committee, 1998a). However, the extent to which doctors advise their patients to become more active is unknown. The importance of lifestyle changes is emphasised to patients with particular conditions, such as high cholesterol or cardiac complaints. It is not clear to what extent patients follow their doctor's advice particularly in the long term.

The Hillary Commission supports the use of Green Prescriptions by doctors throughout New Zealand. Funded by the Ministry of Health, a Green Prescription is written advice from a GP to a patient advising them to be physically active as a part of their health management programme. Activity providers are involved in helping recipients of green prescriptions fulfil their goals. There is evidence that Green Prescriptions are effective.⁵

⁵ www.hillarysport.org.nz/aboutpushplay/greenp.shtml

4.3.4 Funding of elite athletes

There is evidence that the success of our elite athletes increases participation in that sport (NZIER, 1998):

- In the five years following the World Cup win in 1987 by David Kirk's All Blacks, there was a 20,000 increase in the number of people playing rugby.
- The number of junior cricket players increased by 40% following the 1992 World Cup Cricket Series.
- When the All Whites were "on the road to Spain" and the World Cup finals, participation in soccer increased by 25%.
- During 1979-1984, when New Zealand was enjoying considerable international success in tennis, the number of registered players increased by nearly 8,000 (15%).

The increase in participation is dependent on other factors too however:

- Marketing and promotion of the success.
- Sports in multi-sport events such as the Olympics are less likely to receive as much television coverage as single events such as the America's Cup or World Cup Rugby.
- Those sports that already have a dedicated audience are more likely to receive television coverage.
- High cost or poor infrastructure may reduce participation independently of our international success.

It is not clear to what extent the increases in participation would have occurred in the absence of these successes.

4.3.5 Programmes for youth at risk

Evidence has been discussed above that programmes for youth at risk of poor socio-economic outcomes that incorporate an element of physical activity have a relatively high success rate in terms of improving self-esteem and motivation. The same is true for programmes for the unemployed.

4.3.6 Conservation

This has been discussed in section 3.2.1 e) above. The government may have a role in establishing national parks and other reserved habitats for wildlife. This has some cross-over with encouraging people to undertake physical activity if people are more likely to walk, for example, in parks than streets.

4.3.7 Marae

In 1995, a publication by Te Puni Kokiri showed that it was possible to motivate people to attend and participate in organised physical leisure activities. The two most important factors for success were that the physical activity needed to be incorporated in their lifestyle and be organised by Maori to incorporate their whanau and hapu in the activities.

He Oranga Poutama (developing health lifestyles) is an intersectoral project that establishes kaiwhakahaere (co-ordinators) to promote healthy lifestyles and healthy Maori communities within selected local communities. Te Puni Kokiri has also sought to encourage the use of marae for healthy activities through Whare Oranga (marae based fitness centres).

It is important that Maori and other cultural needs are recognised and supported through appropriate interventions.

4.4 Sponsorship

Government should not spend public money on sports or events that could attract sponsorship from the private sector. Corporate sponsorship is a lucrative business. Over a period of 17 years it is estimated that Benson and Hedges gave AU\$25m to the Australian Cricket Board and spent a further AU\$25m on promotion (Furlong, 1994).

Sport is a good choice of activity to sponsor (Thwaites, 1998):

- Television companies are relatively likely to run sports programmes as they have relatively low production costs.
- Sporting activities can transcend national and cultural boundaries.
- Sponsorship is more cost efficient than traditional mass advertising and is able to overcome the clutter of advertisements.
- There are leveraging opportunities associated with sponsorship such as licensing and merchandising.

Motivations for sponsorship may be (Thwaites, 1998):

- Commercial, and focused on increasing public awareness of the company, increasing sales or enhancing the public's perception of the company or product.
- Commercial, and focused on internal staff relations and motivation.
- Commercial, and focused on building business or trade relations through the ability to offer hospitality.
- Philanthropic, and focused on community involvement or personal interest or hobby.

The main target of sponsorship deals is likely to be existing and potential consumers. Sponsorship is different from advertising because it is less certain (NZIER, 1998):

- The brand or company is only indirectly associated with the athlete;
- Athletes may have limited ability to display their sponsors products;
- The eventual level of media coverage is uncertain;
- It is difficult to predict performance in advance;
- There is potential for conflicting objectives between sponsor and athlete or team.

Important factors in a sponsorship deal are likely to be how many other sponsors there will be, the image of the sport or event, the extent of media coverage, the fit with branding and the facility for corporate hospitality.

Sponsorship and professionalism can play a part in funding some elite sport, but some athletes and events are clearly much more likely to receive sponsorship than others. In particular, sponsorship is more likely to go to athletes or teams that are likely to succeed in high profile sports that already have a dedicated audience. There is not always sufficient commercial incentive to attract sponsors. There are public benefit arguments for government support for these non-commercial ventures.

For example, development of new talent provides a degree of public benefit as if it can be capitalised on it will enhance New Zealanders pride in their country at some later time. Similarly, drug testing of sports people has some public benefit as it reassures the New Zealand public and the world at large that New Zealand athletes, and by analogy, New Zealand is a drug free, natural environment that is powered by talent alone.

However, it is important that the private benefit of these services and facilities is not overlooked. It is argued that those who receive a tertiary education will receive private benefit in the form of higher salary, and should therefore contribute to the cost of that education. In the same way, it can be argued that the development of the talent of a sports person will afford them some private benefits and therefore they should also contribute to the cost of developing that talent. Sports also benefit from their image as drug-free. It could be argued then that a levy on sports could help to fund the drug testing required to compete at an international level.

For the physical activity of an average person, sponsorship is only likely to be relevant if the local authority seeks corporate assistance to build a facility such as a swimming pool. Government spending will not displace this type of corporate sponsorship.

4.5 Other agencies

Some intervention options are more suited to other agencies such as local government and community-based organisations, rather than central government. Provision of local facilities, such as swimming pools and small parks and reserves, is a good example. These are unlikely to impact a sufficiently wide cross-section of the population to be effective from a central government perspective.

5. PRIORITIES

5.1 The government's priorities

The Labour Government has identified the following six priorities to guide public sector policy:

- Strengthen national identity and uphold the principles of the Treaty of Waitangi;
- Grow an inclusive, innovative economy for the benefit of all;
- Restore trust in the government and provide strong social services;
- Improve New Zealanders' skills;
- Close the gaps for Maori and Pacific people in health, education, employment and housing; and
- Protect and enhance the environment.

Each of these priorities and their relationship with the spillover effects and other market failures identified in the physical activity sector are discussed below. As previous sections have illustrated, physical activity has a number of positive spillover effects. Physical activity strengthens New Zealanders sense of community and identity; it boosts the economy through increasing tourism and productivity; and it reduces the strain on social services by improving health outcomes and boosting motivation amongst those at risk of poor justice and employment outcomes.

5.2 National identity and the Treaty of Waitangi

The importance of sport and physical activity to the New Zealand identity is discussed in section 3.2.2 b). Other aspects of New Zealand culture and identity are supported through the Ministry of Culture and Heritage, which provides policy advice on arts, culture, heritage and broadcasting policy. It also provides \$135m funding to nine organisations that are considered important to New Zealanders' identity:

- Te Papa
- New Zealand Symphony Orchestra
- New Zealand Film Commission
- New Zealand Film Archive
- Royal New Zealand Ballet
- Aotearoa Traditional Maori Performing Arts Society
- NZ on Air
- New Zealand Historic Places Trust

While sport and other physical activity is often undertaken spontaneously and the decision is usually made by the individual, infrastructure and other support is frequently needed to enable participation. The success of our best sports people at an international level engenders feelings of pride among many New Zealanders.

The conservation and management of our natural environment in a way that is consistent with the principles of the Treaty of Waitangi, and respectful of Maori beliefs is also relevant to this priority.

Finally, participation in physical activity has been shown to improve social cohesion, or people's sense of community. In this way, physical activity promotes a sense of togetherness as New Zealanders enjoying the physical environment.

5.3 An inclusive, innovative economy

Section 3.2.1 d) discusses the economic effects of physical activity. BERL estimated that the direct contribution to GDP of the physical leisure sector in 1999 was \$886 million, and 22,489 full time equivalent jobs.

There is also evidence that workers who are physically active are more productive and have fewer sick days than inactive workers. The scale of this indirect effect is not known.

Furthermore, in workplaces where employees join in outdoor or physical activities as a team, there is some evidence of an improvement in teamwork as well as individual skills.

Major sports events, and the image of New Zealand as a sporting country where there are significant facilities for outdoor and other physical experiences attracts tourists, as discussed in section 3.2.2 a). Tourism is one of New Zealand's fastest growing exports.

5.4 Trust in government, strong social services

This priority has two interlinked strands. The first, relating to restoring trust in government, is not very relevant to the sport, fitness and leisure sector. It focuses on enhancing the public service, "keeping faith" with the electorate and working constructively in parliament.

The second strand, which relates to the provision of strong social services is more relevant. Physical inactivity is a risk factor for some social outcomes that the government usually provides services to mitigate against. Physical activity is also a protective factor in relation to some outcomes, that is participation in physical activity reduces the risk of some poor social outcomes.

In particular, the sedentary lifestyles of New Zealanders and the spread of overweight/obesity is a significant public health issue. In section 3.2.1 a) research is

reported that shows the link between physical inactivity and a number of diseases including coronary heart disease, stroke, depression and some forms of cancer. By encouraging physical activity the incidence of disease would be reduced and the need for social services would ease.

The importance of physical activity to health outcomes has been recognised by the government in setting the objectives for the Ministry of Health and District Health Boards. One of these 12 objectives is “to increase levels of physical activity.”

The need for other government services could also be reduced by encouraging physical activity. Participation in sport and other recreation has been shown to reduce juvenile crime and increase the motivation to work. This would ease the demand for justice sector resources and unemployment and other social welfare benefits.

5.5 Improve skills

Physical activity can assist concentration and motivation amongst students and others who are preparing to work. The “Residential Motivational Training Programme” run by the Department of Work and Income shows that physical activity has a positive impact on skill development (see section 3.2.1 d).

Volunteers in the physical leisure sector also gain valuable skills that they can transfer to other environments. Over 540,000 people donated time to physical leisure activities in 1998.⁶ This is 19.6% of the adult population. Roles performed include coach, referee or other official and administrator. BERL estimated that the total value of this contribution was nearly \$1.9b.

5.6 Closing the gaps

Maori have particularly poor socio-economic outcomes, for example in health, justice and employment. Physical inactivity has been discussed above, in terms of being a risk factor for poor health outcomes. Physical activity is also a protective factor that mitigates against the risk of bad outcomes in the justice sector and in employment.

Maori, and in particular, Maori men are less active than the average population. The implication is that they are at greater risk of poor outcomes in justice, health and employment. Increasing the participation of Maori in physical activity may therefore assist in closing the gap in outcomes in these areas.

Improving social cohesion, or New Zealanders sense of community through participation in sport may also help to align outcomes as everyone works together to common goals (see section 3.2.1 b).

5.7 Environmental protection

Physical activity has an ambiguous effect on the environment. On the one hand there is a greater impetus to protect the natural surroundings, while on the other increased use creates wear and tear (see section 3.2.1 e).

⁶ BERL (2000)

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