contexts for development clarifying values



NEW ZEALAND IN THE FUTURE WORLD

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A Discussion Paper prepared by

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FOREWORD

This booklet in the New Zealand in the Future World series completes the CFF work on identifying future options and choices by providing four alternative Contexts for the development of New Zealand. These Contexts are offered as a means of helping us clarify our values, since thinking about the future requires, first of all, a framework, or set of values, within which decisions can be made.

The research which has gone into making the Contexts has involved wide reading, imaginative thinking, and a vigorous and systematic consideration of detail. The Contexts are also supported by quantitative modelling work by Professor B. P. Philpott's team at Victoria University as a further step to ensure that their economic strategies are viable.

In reading the Contexts, the following points must be remembered:

- Context evaluation is an analytical technique for identifying consequences. You will probably find in all the Contexts aspects which you personally consider unacceptable, but which others do not.
- The Contexts are not predictions of the future. They are attempts to decide what New Zealand might be like if the values appropriate to each of the Contexts were widely held.
- The descriptions of the lifestyles in the Contexts are speculative and in the CFF's best judgment are considered appropriate.

Above all, remember that this aspect of CFF work is designed to stimulate thought about long-term possibilities, and to identify some of those which might be feasible and acceptable. The way we actually do develop will be a mixture of Contexts and will depend ultimately on value judgments—implicit or explicit. In exposing you, in this booklet, to the implications of your own and others' values, the CFF hopes that New Zealanders' long-term goals and aspirations will become more clearly recognised.

If you have any further thoughts on the way other facets of our national life would be handled in the four Contexts, CFF would be glad to hear them.

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J. F. Duncan, Chairman.

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INTRODUCTION

"It is not the task of futurists to predict exactly what people will do in the future, but rather to help people to understand the possibilities of the future so that a better world can be created."

Edward Cornish, President, the World Future Society.

This could have been the thinking of those who wrote the terms of reference for New Zealand's Commission For the Future (CFF). The New Zealand Planning Act 1977 lists the aims of the CFF as follows:

- (a) To study the possibilities for the long-term economic and social development of New Zealand.
- (b) To make information on those possibilities available to all members of Parliament, and to publish such information for wider dissemination.
- (c) To promote discussion on those possibilities and information relating to them.

(d) To report to the Minister on these possibilities. .

The first three booklets in this New Zealand in the Future World series highlighted many possibilities for New Zealand's future. They explored the scope and limits of our economic, social, and political options. For example, the range of natural resources which per head of population makes New Zealand a richly endowed nation was described; so were the consequences of using these resources thoughtlessly. The tone of the three booklets was a restrained optimism. If New Zealanders chose wisely among their many options, then the possibilities for shaping a better society abounded.

New Zealanders have generally accepted this message. But there are a number of conflicting versions of how to achieve this potential; indeed of the kind of future New Zealand ought to be trying to achieve. Conflict shadows our development. Such conflict could easily lead to an increasingly complex and unmanageable society in * which unrelated decisions produce unexpected, even unwanted results.

This fourth booklet attempts to help New Zealanders tackle such conflict about our future development. It argues that in order to choose from our many options, we first have to have a clear idea of the kind of future we want. We need an analytical tool to help us clarify our values and aspirations; to help us sort and organise the information which is important in making our own choices for the future.

The need for such a tool is argued in chapters 1 and 2. The tool itself is presented as a set of Contexts for Development in chapters 3 to 6. Finally in chapter 7 readers are shown a number of ways in which the Contexts can be used.

The CFF hopes that this booklet will contribute further to the current debate on the possibilities for New Zealand's future.

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CHAPTER 1 - THE END OF A DREAM 1950-1981

Just a few years ago New Zealand seemed somehow different from other places. Fleets of old cars, shut-down weekends, plain but comfortable lifestyles gave visitors the feeling of having left the modern world. Many took seriously the joke advising them to put their watches back 15 years while staying in the country.

Like a cartoon, this was an exaggerated picture of reality. In ambition, New Zealand has always reflected British middle-class values. Security through material prosperity and social harmony through upward social mobility have been its favoured pursuits¹. Nevertheless, right through to the early 1970s New Zealand did seem to follow a slightly different path from other western nations. It could do this because of a relatively favourable world economic situation, a pleasant climate, plenty of land for a small population, a recent pioneering history, geographical isolation, a bi-cultural heritage, local inventiveness and a small, personal scale to human relationships. New Zealand was Godzone: a slightly old-fashioned but secure haven for its people.

Most people recognise that this picture has changed. With the 1970s came challenges not faced before by New Zealanders. An increasingly turbulent world undermined our secure economic position. Almost overnight, oil-fuelled technologies which had played a large part in New Zealand's development experienced a price revolution. At the same time, new technologies were changing the face of New Zealand life. After decades of being papered over, traditional social rifts reappeared and new social divisions disturbed New Zealand's social harmony. In short, New Zealand is now a society in fundamental change.

NEW ZEALAND IN AN UNCERTAIN WORLD

The New Zealand quest for security was based on the assumption that the United Kingdom (U.K.) would always be a welcoming market for our primary products. The Treaty of Rome (1957) established a European Common Market (EEC) and challenged that assumption. If Britain joined, she would abandon her role of "Mother Country" and force New Zealand to fend for herself. The U.K. joined the EEC in 1971. As expected, its common agricultural policy has been hard on New Zealand. Dairy and meat exports were badly affected forcing new trading patterns on us. Whereas in 1952-53 the U.K. took 68.1 percent of our total exports, she took only 19.9 percent by 1976-77. Markets in Australia, in the Pacific region generally, in nations belonging to the Organisation of Petroleum Exporting Countries (OPEC) have had to be developed. Many of these are in highly unstable areas of the world. So New

Zealand's economic security was badly damaged when Britain joined Europe.

It has also been affected by turbulence in the world's economic order. In 1950 the economic power of the western world was unquestioned. For example, the Bretton Woods Agreement of 1944 seemed to secure the world's monetary system indefinitely. Communism could be contained by military and economic means by creating bulwarks on the Soviet Union's frontiers. The West controlled most of the world's known resources. An independent and organised group of former colonies was unthinkable as the world divided cleanly into two parts—with the West dominant.

By 1980 such assumptions had undergone a transformation. The stable world monetary order ended when President Nixon severed the official link between the U.S. dollar and gold in 1971. The rise of OPEC, China, Japan, and the EEC have made too simple the view of a bi-polar world. A new bloc of often very poor ex-colonies has complicated world relationships. Control of some key resources lies in the hands of a very few countries and a small number of transnational companies, units not necessarily loyal to western ideals. For example, OPEC nations control 70 percent of the world's oil resources and IBM alone supplies between 60 percent and 70 percent of the equipment in the new computerised information industries ². The seventies also saw the growth of serious doubts that the present pattern of resource use could be sustained in the long term. The early Club of Rome reports and the recent Brandt report³ suggest that the human prospect is bleak. Not only are there limits to natural resources but their uneven distribution has created grounds for very serious conflicts between developed and undeveloped nations.

Economist Paul van Moeseke has found a new way of describing New Zealand's place in the world. He classesit in the "most favoured" of four quite different worlds4. In this favoured world with New Zealand are developed countries like Sweden and the United States which have an extensive resource base and relatively low population density. In the second world are developed countries with high population and shrinking resource bases. Japan and West Germany are countries in this world. Less developed countries with an extensive resource base and low population density like Brazil and Argentina make up the third world. In the fourth are countries like Bangladesh and Pakistan with their large populations, small resources and little hope. This fourfold grouping of the countries of the world shows us how other countries see us: as a nation with a number of development opportunities closed to others; a nation to whom nobody owes a living or a guarantee of security.

Even New Zealand—small and more than 1500 kilometres from its nearest neighbour—cannot escape the insecurity caused by nuclear proliferation. Whereas in 1950 only two countries had nuclear capabilities, now there are many. The United Kingdom, France, China, and India have tested nuclear devices; Israel, Pakistan and South Africa probably possess them. Even the possibility that political protest groups could acquire nuclear weapons cannot be ruled out. After warming during the 1960s and early 1970s, the relationship between the two superpowers has frosted again. With the Middle East, South-East Asia, and Eastern Europe in turmoil, the possibilities of nuclear war are not remote.

Faith in existing institutions, power structures, and ways of doing things prevailed into the 1960s. Since then civil rights groups, women's liberation movements, environmentalists, and consumer protectors have acted to change existing power structures. Now there are separatist movements which assert their independence in Northern Ireland, Scotland, Catalonia, Quebec, and even in New Zealand. There are movements such as the Baader-Meinhof groups in West Germany which openly aim at anarchy or a complete change of system. Nationalism in developing countries, coupled with the rise of communism and Islam, has challenged world capitalism. The oil embargo of 1974, the nationalisation of the middle eastern oil fields and the quadrupling of the price of crude oil were further challenges. Increasingly the complexity of world relationships has been demonstrated. New Zealand too has been forced to try to make sense out of this kaleidoscope of realities.

CHANGING TECHNOLOGIES

New Zealand owes its economic "take-off" to technology. The basis for its prosperity was laid in 1882, when refrigeration was applied to the shipping of perishable foodstuffs. And technology has since then driven New Zealand's development. Trains, trucks, tractors, and later the aeroplane opened up the country. Artificial fertilisers and insemination increased productivity in agriculture. In the 1960s there was still little doubt that machines based on oil would continue to make New Zealand's products profitable. The oil price hikes of the 1970s changed that. Although export earnings have been high since 1974, increased payments for oil imports offset this to condemn New Zealand to a serious balance of payments problem. A current account deficit of \$95 million in March 1974 rocketed to \$1,290 million a year later. Since 1977 it has consistently been over \$700 million⁵. Forced to look in their own backyard, New Zealanders, were delighted to discover resources which could support a number of different development paths. We could, for example, become energy self-sufficient by using established or recently developed technologies to make synthetic petrol from gas or coal; or we could achieve the same objective by using different technologies and farming our energy requirements.

Other technological breakthroughs have affected New Zealand's social fabric. One of these is birth control. Childbearing ceased to be the primary focus of most women's lives as couples gained control of their fertility. Today nearly one-fifth of married women have no children. Other factors have encouraged women to take advantage of their new-found biological freedom. Automatic ovens and washing machines, for example, have freed women from time-consuming home duties. So the number of women in paid employment has increased dramatically in recent years. The number of females in the work force has increased at a rate twice that of males. The percentage of married women actively engaged in the work force rose from 13 percent in 1956 to more than 32 percent in 1976. The percentage is far greater if married women working fewer than 20 hours a week are included. At the same time there has been a restructuring of family relationships. The 1976 census showed that only about one-half of households were composed of two parents and 2 children. In 1966 such families had made up 60 percent of all households. Now, more people live in single or solo-parent households; as childless or post-rearing couples; in extended groups or in single sex partnerships⁶.

Another technology to have brought profound social change into New Zealand was television. Before 1960, New Zealanders had to search out their entertainment, their information, their life images in the cinema, in printed material or at live events. Since then more and more people have had access to these services in their own living rooms. Surveys suggest that the average person over 10 years old spends 24 hours a week in front of the box. It is quite possible that by their fifteenth birthday children will have spent more time watching TV than at school . Television has emphasised to New Zealanders that they are part of one world culture. It has accelerated the flowering of the consumer society. Generally materialistic, New Zealanders have enthusiastically embraced the newest goods and services seen on TV. Advertisers have indeed been successful: fast food chains mushroom; cars and boats are moving well; electronic organs and stereos are enjoying a boom; "Slime", a green plastic putty, enjoyed quick sales after appearances on TV. Some commentators suggest that increasingly people seem to create their life images from TV. They use television experiences to handle specific life problems⁸.

Now New Zealanders face the sweeping changes brought by another technology. In 1950 computers, satellites, and robots were terms used in science fiction. Now such electronic technology promises to usher in a new age. The most important contribution to the electronics revolution has been the silicon chip. A smaller than thumbnail-sized mass of minute circuitry, the chip has the power of a room-sized computer of twenty-five years ago. Between 1960 and 1978 the cost of computer calculations fell by a factor of 100, while their Even New Zealand—small and more than 1500 kilometres from its nearest neighbour—cannot escape the insecurity caused by nuclear proliferation. Whereas in 1950 only two countries had nuclear capabilities, now there are many. The United Kingdom, France, China, and India have tested nuclear devices; Israel, Pakistan and South Africa probably possess them. Even the possibility that political protest groups could acquire nuclear weapons cannot be ruled out. After warming during the 1960s and early 1970s, the relationship between the two superpowers has frosted again. With the Middle East, South-East Asia, and Eastern Europe in turmoil, the possibilities of nuclear war are not remote.

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The information society is not a figment of the science fiction writer's imagination. Many New Zealand occupations, for example, have already gained an information bias. In 1978 the Organisation of Economic Co-operation and Development (OECD) published an inventory of information occupations. The International Labour Organisation (ILO) classification of occupations was used to identify occupations which produced, processed, or distributed information, or serviced information technology. Using this classification, Figure 1.1 shows that the information sector has become the largest employment sector in New Zealand.

Figure 1.1 Changes in New Zealand Classified Work Force, 1956–76



Source: M. P. Conway, Information Occupations: The New Dominant in the New Zealand Workforce, CFF, Wellington, 1981.

THE SOCIAL TRANSFORMATION

Turbulence has also become a feature of social life. New Zealand during the seventies seems to have been transformed into a conflict-ridden society. There have of course always been social divisions. But in spite of the 1951 waterfront strike and anti-Vietnam war protests, the 1950s and most of the 1960s seemed to be quiet years. New Zealanders seemed to be pulling together to achieve a secure and prosperous country. This picture of an homogeneous New Zealand has its reflections in the writings of the time. New Zealand historians, for example, debated whether New Zealand had a formal class structure or whether it was an open society in which social mobility blurred class divisions. By 1977, however, W. H. Oliver, one of the main defenders of the open society interpretation, admitted "to write of class conflict would be too simple a formulation, but to pretend that there is not fierce and bitter competition between social groups . . . would be wholly unrealistic"⁹.

Certainly until the 1970s very little objective research was done to shed light on the nature of conflict in New Zealand. Most people were reluctant to inquire into such matters at a time when the standard of living seemed to be rising for all. The evidence of wellbeing was impressive. Whereas in the early 1950s, 60 percent of dwellings had owner occupiers, in 1976 this had risen to 70 percent. In 1965 nearly 50 percent of school leavers had no formal qualifications; by 1977 this had fallen to 35 percent. By the mid-seventies 66 percent of New Zealand households had a deep freeze, 90 percent a telephone, 98 percent an electric or gas stove¹⁰. With the introduction of accident compensation, a solo parent's benefit, and a new superannuation scheme, the welfare system seemed almost complete.

As the 1970s marched on, however, conflict became a fact of life. On investigating its causes a number of scholars have found that basic inequalities between groups of New Zealanders were being enlarged by changing conditions. A class of relatively poor New Zealanders was emerging. This class includes many Maoris, young people, families with small children, and families with solo parents. Economist Brian Easton describes households earning less than 70 percent of after-tax average income as living in relative poverty. On this basis he estimates that between 1973 and 1980 the number below the poverty line rose from around 18 percent of the population to 22 percent; a rise of one-fifth¹¹.

One study found that 25 percent of all very bright school leavers came from a professional background. Yet 39 percent of the university entrants of that year came from the same professional backgrounds. On the other hand, 37 percent of very bright school leavers came from manual working backgrounds but only 20 percent of university entrants had such backgrounds¹². Prospects for Maoris seem particularly bleak. Consistently their educational qualifications have been below those of non-Maoris. In 1973, for example, 36 percent of the non-Maori population left school without any qualifications, whereas 74 percent of Maoris did. More than one-quarter of Maori school leavers went into unskilled occupations that year compared with six percent of the non-Maori school leavers¹³.

Growing conflict is relatively easy to demonstrate. Industrial stoppages provide one crude indicator. Measured in terms of working days lost, stoppages were at a low level for the fifties (apart from 1951), increased over the sixties and rose more steeply in the 1970s¹⁴. The activities of protest movements provide another if less exact indicator. Thus, throughout the 1970s, the resentment of Maori activists against European society became obvious. Bastion Point, the Maori Land march, the Auckland University haka party, the disruptions of Waitangi Day ceremonies, the birth of a new Maori party, are signs indicating that many Maoris are ready to assert their cultural independence, some by violent means if necessary. In defence of New Zealand's natural heritage, environmentalists have also repeatedly risked life and limb to oppose the force of authority. The continuing battle over the abortion issue has been no less heated or divisive.

Open conflict is only the tip of an iceberg. Underlying such conflict is a widespread crisis of identity. By adopting different lifestyles, some people are turning their backs on affluence and materialism. In their quest for identity, urban gangs swing between violent behaviour and community welfare activities. Participation in local and national elections declines. Many who do vote, show their dissatisfaction by voting first for one party then another. For the first time since the late 1930s unemployment has become a serious problem. The confidence of the young, the unskilled, women, and Maoris has been eroded. National Research Bureau (NRB) survey results show that the confidence of New Zealanders in their society has decreased. Measured on a scale of 0-100 it has consistently been below 40 since 1975¹⁵. Crime has risen faster than the population. For example, while population increased by 13 percent between 1967 and 1975, High Court convictions for murder increased by 28 percent; convictions for assault and wounding by 279 percent; for sexual offences by 21 percent; and for robbery, burglary, and breaking and entering by 31 percent¹⁶. New Zealanders' perceptions of their prospects have changed. Whereas between 1960 and 1975 they expected their overall quality of life to continue to improve, since 1975 they have expected it to get worse¹⁷.

This chapter has pictured New Zealand as a nation in turbulent change. Disagreeable surprises have altered our position in the world, forced us to reassess our way of using technologies and shown our social unity to be rather brittle. As the events of the 1970s have stripped New Zealand of its dream of security and harmony, plans and schemes to recapture the dream have multiplied. Most often, plans have focussed on economic factors. In these, the return of economic prosperity is seen as the necessary and sufficient condition for a return to security and harmony. Yet, this cannot be achieved by trying to recapture the conditions of the 1950s and 1960s. They no longer exist. New Zealanders have to learn to use their human and physical resources in new ways and develop a new approach to security and social harmony.



Chapter 1 has shown that New Zealand is already a society in change, responding to the new world environment, new technology, new social movements. Its shape at the turn of the century and beyond is being determined by decisions taken today. How can we be sure that the decisions we make are consistent with each other? Can we develop an image of a preferred future which will help to guide our present decision making? Is it possible to shape our future by our own actions when we live in such an uncertain and complex world? The Commission For the Future believes it is possible for New Zealanders to anticipate some of the major problems and opportunities that lie ahead and steer a path to desirable goals. Above all it believes that the best future for New Zealand will result from the expressed desires of New Zealanders who are well informed. This chapter explores these questions further and establishes the need for an analytical tool which can help New Zealanders to clarify their opinions, values, and aspirations and match them with resources and forecasts to allow consistent sets of decisions to emerge.

THE WORLD SCENE

Throughout the world the expectation that the future will be like the past has helped to create tangled knots of old and new problems. This expectation has also seduced people into believing that all problem knots can be cut with simple strokes. The world food crisis, for example, was to be solved by the single stroke of increasing crop yields. While the programme called the Green Revolution could in theory achieve this objective, its effectiveness was limited by the appearance of associated problems. The new techniques required the expensive application of fertilisers and pesticides. This dispossessed poorer people unable to use the new methods and added to unemployment, social inequalities, and malnutrition. In the process of strengthening one link in a long, partly-buried chain, other links in the chain were relatively weakened. Change turned out to be too complex to be managed by simple methods.

A futures oriented literature thrives, offering new ideas of how the complexity knots can be untangled. While they often differ in details, most futurists would agree that the world is entering a new stage of development. Alvin Toffler describes this as the Third Wave: where the First Wave, Agriculture, took thousands of years to reach its crest; the second, Industrialisation, took 300 years; and the third will only take decades to sweep the world¹. Most also agree that humankind still has time to influence the shape and spirit of the new era. But this should be a matter for all individuals, not just for a few decision makers whose age, sex, and culture can blind them to the aspirations of people from different backgrounds. As people's goals and values are diverse, views of the future are also likely to differ. Certainly in New Zealand there reigns no one, preferred vision of the future. According to many futurists this is an advantage. Provided people are informed and have a will to find solutions, public debates can clarify issues and spotlight opportunities. Of course such debates are about setting directions not about designing blueprints. Debates allow, according to businessman Maurice Strong², discussion of the most important future perspectives: our relationships with each other and our relationship with the environment and its resources. When combined, people's positions on these future perspectives can be used as contexts for debating future developments.

Futurists have not been slow to present their own views of what post-industrial society might be like. A recent guidebook to the literature on alternative futures contains more than 1000 items³. Most futurists can be grouped in one of four types. There are those, like Herman Kahn and Daniel Bell, who believe that the world is on the brink of a great technological leap which will allow a new phase of economic growth to take place. This future is one of rugged individualism in which human ingenuity can overcome all problems⁴. A second kind of future is envisaged by thinkers like Willis Harman, Hazel Henderson, and James Robertson. They see the post-industrial age as an entirely new civilisation which affirms the value of all human beings; the right of all to satisfy their basic needs; the right to equality of opportunity for self-development and the extension of these rights to all future humans. It also affirms the intrinsic value of the biosphere. While scientific thought and method must not be abandoned, they must be supplemented by intuition, spirituality and love5.

Also perceiving a new order in which caring and co-operation feature are futurists like Johan Galtung and Gunnar Adler-Karlsson. Reflecting their Scandinavian origins, they look for a philosophy which will combine the best features of liberalism and socialism. They see the emergence of a society in which adequate material provision for all is combined with personal freedom. Meeting a wide range of human needs is the central purpose of their post-industrial world⁶. Emerging just recently in France, Canada, and the United States is a fourth view. It finds its tool for untying the knots of change in the new information technologies. With skill and daring, information can be used to fashion an exciting, individualistic, yet humane and sane post-industrial world⁷. It is all very well to have visions of a post-industrial society. But how is New Zealand to slip smoothly from its present into the coming era? Is a smooth transition possible? And can New Zealand's traditional goals of material security and social harmony still be achieved? Change brings in its wake human problems. Nevertheless, by adopting two techniques, New Zealanders can minimise further social dislocations.

THE ART OF ANTICIPATION

Although most New Zealanders are becoming aware of the changes of the last 30 years, they continue to be surprised when their private lives are affected. As a result, decision makers are forced to react to them in a hasty manner. The way unemployment is being dealt with is a good example of hasty reaction. Politicians and bureaucrats in business and government service worry about the future; parents and children fear for their cherished aspirations; community workers for those who cannot satisfy the demands of the work ethic. Blame is apportioned. The welfare state, technology, the unemployed themselves are criticised. Short-term solutions from the past are used to alleviate the situation. Like sticking plaster, welfare measures such as dole payments, special work schemes, and "Nourishment Centres" are introduced. Some short-term measures are, of course, necessary to alleviate the problems of the present. They won't, however, do anything to avoid future surprises. So our normal reactive approach must be supplemented by anticipatory thinking.

One of the few things certain about the future is that it will contain unwelcome surprises. Such things as genetic engineering, nuclear war, global depression, and climatic change could affect our expectations of employment even more than the microprocessor. Moreover, the full effects of surprises from the immediate past are still to be felt. The current round of unemployment is not caused mainly by microprocessor technology, for example; nor have we yet heard the last of the energy crisis. Then, the full demands of social movements like the women's movement and the Maori community have yet to be recognised, let alone met. Unless we examine the assumptions which underly our personal decision-making, we could run out of sticking plasters and face a future in which we are incapable of surviving a never-ending hail of surprises. But such sweeping, dramatic statements are useless to people. They need an analytical tool which allows them to make decisions today, reasonably confident that their decisions can anticipate whatever the future may bring.

Such a tool does not need to predict the future. The future is not predetermined and any attempt to anticipate it must be imaginative. However, to imagine just one future is as pointless an exercise as trying to predict one. In a time of change a number of alternative images are possible. The existence of alternatives is one reason why conflict about New Zealand's development is so heated. Imagination is a very personal thing. We do not see things as they are; we see them from our own point of view. In imagining an energy future, for example, many people these days see an energy self-sufficient New Zealand. Some want to use our gas, coal and all available development capital to achieve this goal as quickly as possible. They believe that resources exist to be used for our benefit. Shortages of resources in the future will be overcome. Others dislike this version of an energy self-sufficient New Zealand. They want to use renewable resources such as solar energy or liquid fuels produced from trees to achieve self-sufficiency. Since gas and coal are not renewable resources, they should be conserved and used carefully over a number of generations. In this example different values and perceptions have led to different chains of logic and different pictures of an energy self-sufficient New Zealand. Each chain of logic can become part of a context for development. A society which seeks to develop the art of anticipation is one which considers many contexts before making decisions.

THE LOGIC OF PARTICIPATION

New Zealanders have become aware of the urgent need to choose new directions. Alternative directions have been easy to find, but consensus about which direction to choose seems impossible to find. The different aspirations arising from differences of role, sex, income, age, and place of residence have been accentuated, for example, by loss of economic opportunities, more formal education, television, and effective birth control. Consensus in politics seems largely to have been abandoned.

In a democracy everyone has the right to have his or her views considered. There is no single legitimate view of the national interest. So decisions affecting the national interest must be fully debated. Conflicts are best exposed and then tackled by the participation of all people interested in the debate. Useful participation requires an educated and informed population.

This method of decision making raises two difficulties. One is that many areas in need of decision are so specialised that only highly trained experts can decide complex technical alternatives. The allocation of frequencies in telecommunications is such an area. As the general public cannot hope to reach the level of knowledge required to make detailed technical decisions, this work must be left to experts. This does not mean, however, that the public cannot be well enough informed to set policy guidelines. In the telecommunications field, for example, people can learn to understand the costs and benefits of installing or not installing certain types of telecommunication equipment. Experts, in short, are there to advise and to carry out policy decisions. They have no special right to use their version of the national interest to overrule others.

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Another difficulty is how to tackle conflict in a diverse society. Major decisions made without discussion intensify conflict. To debate our future constructively we have to recognise that there are different sources of conflict. Each source needs to be dealt with differently. Disputes concerning values are different from disputes about facts.

This can be illustrated with reference to a conflict over land use. There is a dispute over whether certain forests should be preserved or used as an economic resource. This is a dispute over values and aspirations. Then there is a disagreement about how to evaluate the consequences of preserving or utilising the forests. The question of whether land should be owned or controlled privately, by communities or by the State is also a source of conflict over land use. Once again these are matters of values and cannot be resolved by reference to facts.

Thus values are not right or wrong in the way facts are. Values can only be aired and clarified. Once this is done the relevant facts can be used to draw practical conclusions. Disputes can then be understood and tackled. What is needed most urgently in New Zealand, to enhance participation in decision making, is the clear statement of development philosophies which clarify the values underlying public discussion of contentious development issues.

co-operative. One view of relationships with nature is that humans can dominate nature at will; another that they must live in harmony with it.

Each Context investigates how a philosophy based on such contrasting values would develop New Zealand. The basic assumptions of the four philosophies are summarised below and explored separately in chapters three to six.

Context A:	Humans are individualistic and
	competitive and can dominate nature.
Context B:	Humans are individualistic and
	competitive but must live in harmony with nature.
Context C:	Humans are social and co-operative but
	can dominate nature.
~ ~ ~	**

Context D: Humans are social and co-operative and must live in harmony with nature.

Each context is best read from the point of view of a person who holds that particular "world view". The reason for this is that what seems to be a logical chain based on one philosophy does not always seem logical from another point of view. The question being answered in each context is "If this philosophy guided the actions of most New Zealanders what kind of future could they expect to have?"

CONTEXTS FOR DEVELOPMENT

To aid such discussion, this booklet presents four different Contexts for Development. Derived from currently held values and aspirations, each Context seeks to capture the chains of logic which come from different development philosophies. Although many Contexts are possible, four have been selected as being particularly appropriate for discussion in New Zealand. Not only do they feature in the debates of the world futurist movement, but they have roots in our own past and take account of present opinion. All imagine a changed New Zealand in which either our values or our methods of achieving objectives have been transformed. All are feasible. They take account of the factors which form the boundaries of all strategies for New Zealand's development. For example likely upper and lower limits to population growth and work force participation have been kept in mind. Suggested cultural changes have been kept within the limits of what the Commission for the Future think is possible in a 30 year period. These and other important limits to change are discussed in Appendix A.

Each Context is introduced with a short development of a "world view" derived from two fundamental beliefs; one about the nature of relationships between human beings; the other about human relationships with nature. One view of human nature is that humans are individualistic and competitive, another that they are



CHAPTER 3-CONTEXT A



- PHILOSOPHY: Leading to general guidelines for development.
- INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.
- VALUES AND POLICIES: Suggesting how values could be turned into action.
- IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.
- FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

BASIC PHILOSOPHY: Leading to general guidelines for development.

The spirit of free enterprise prevails in this Context. The environment is a system of resources which humans can master, transform, and organise to serve their own interests. Material prosperity is a measure of security and self-esteem. When individuals are responsible for their own destiny, society will flourish. Figure 3.1 sets out the basic assumptions of the philosophy and some general guidelines for development which flow from them.



18 NEW ZEALAND IN THE FUTURE WORLD

Alter .

INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.

Individuals need to be free to pursue their own best interests. There is no need for government to plan for the future. The major features of a New Zealand society based on this foundation emerge when other aspects of the philosophy are considered.

DEFINING THE CONTEXT

Industrial Development

Since the onset of the energy crisis people who hold this philosophy have become aware that New Zealand is comparatively well endowed in resources such as timber, hydro-electricity, natural gas, and coal. These are now highly valued on world markets. Expanding economic activity in new industries which extract and use these resources is an exciting option for development.

To be competitive on world markets extractive industries have to be large in scale, highly efficient, and not overburdened with pollution control regulations. Processing industries need to produce mass market products. Capital intensive technology designed to increase productivity is essential for both. In order to service these industries financial institutions need to grow. Support services such as transport, electricity, water, communications have to concentrate and increase in scale to meet the needs of the new giants.

Since free enterprise is at the heart of all activity in this Context a picture begins to form of an economy dominated by privately-owned large scale primary industries supported by large privately-owned service industries. A concentration of power and wealth is inevitable. Competition between corporations for raw materials and skilled workers occurs.

New Zealand in the World

Given the belief that world trade will grow, there would be an understandable desire to exploit the country's natural resources as fast as possible. Considerable foreign investment would be required to boost New Zealanders' own contributions, for the proposed industries are highly capital-intensive and use technologies unfamiliar in this country. This is the path explored in this Context.

In welcoming the capital and technology of overseas companies to speed the building of a new industrial economy, New Zealanders tie the development of their society to the developing world culture, the fortunes of the world economy and their international partners.



Individualism and Employment

In a society where people meet most of their needs in the market place, employment opportunities are essential to distribute wealth and wellbeing. Because of automation, new jobs created in the resource-based industries are not expected to close the gap between jobs available and jobs required¹. However, people expect a general stimulation of economic activity once these industries are established. This exploration of industrialised New Zealand will take an optimistic view of future employment opportunities in spite of world-wide debate and disagreement about the future of work². Belief in free enterprise and the initiative of individuals in designing products for export will keep production at a level sufficient to hold up employment. The tradition of "do-it-yourself" will allow an informal self-service economy to emerge to cater for those without a regular income from work.

Individualism and the State

It is accepted that people will give priority to the pursuit of their personal goals. Co-operation to achieve common goals, for example in the workplace, and a positive attitude to the interests of others, such as neighbourliness, do occur. However, no-one is expected to put the goals of others above his own. Thus all human relationships are by voluntary agreement or by contract. The State exists to protect this freedom. Since all are equal in the right to pursue their own interests, all expect an equal right to protection by the law and an equal chance that conflicts will be resolved in their favour. Thus the State's most important role is as arbiter of conflicts and it needs the powers and the means to do this. To move further in the direction of a free society also requires the dismantling of many government institutions. Functions such as public works and health care which are carried out by the government today are taken over by private enterprise.

VALUES AND POLICIES: Suggesting how values could be turned into action.

The people in a society developing from the philosophy just outlined would hold certain values and attitudes in common. These could give rise to the following goals and policies:

1. Rights and Relationships

A Constitution and Bill of Rights are considered essential. This future New Zealand depends on the balance of relationships which develops between individuals pursuing their own ends, powerful business interests doing the same, and a government which is expected to exercise only those powers freely delegated to it by the people.

To secure the rights of individuals in the face of, for example, possible coercive alliances between business interests and government, a Constitution is needed

Figure 3.2



which sets out the exact role, structures, and functions of government. To maintain social harmony when disagreement arises between any two of these partners in society, a Bill of Rights is necessary as a base for conflict resolution. The courts need to be established as the final interpreter and arbiter of all disputes over constitutional matters or matters of individual and corporate rights. A Constitution for New Zealand would need to address the issues listed in figure 3.2.

Figure 3.3 lists those rights and freedoms of the individual which arise directly from the philosophy and also those which are necessary to sustain the philosophy in the future. This list has much in common with the Universal Declaration of Human Rights, various rights already scattered throughout English law and the amendments to the Constitution of the United States. It could form the basis of a Bill of Rights for a competitive, open New Zealand society.

Figure 3.3 Content of a Possible Bill of Rights

Equal Rights-

- To life and liberty.
- To security of person.
- Before the law.
- To the protection of the law.
- To vote and take part in government.
- · To make contracts and own property.
- To privacy.
- To basic education.

Freedom-

- Of opinion and expression.
- To use all media to seek and impart
- information.
- Of religious belief and practice—
- From want.

2. Sustaining the Philosophy

Representative democracy is accepted as the most efficient form of government. Political parties aim to gain support from a wide cross-section of the public to reduce the chance of fragmentation of society.

There is free primary and secondary education to help equalise opportunities to pursue personal goals regardless of family circumstances.

In the national interest the government is expected to provide a subsistence unemployment benefit and help individuals to find work. An efficient labour market policy is therefore required. This flows directly from the need to sustain the philosophy through a difficult period of economic adjustment and beyond. It could contain most of the objectives listed in a recent Planning Council report on employment³. Figure 3.4 lists those objectives suitable for use in this Context. Figure 3.4 Objectives of an Efficient Labour Market Policy

To minimise unemployment and contribute to social harmony by:

- Providing information about the changing labour market and labour force.
- Ensuring everyone is adequately equipped to participate in the labour force by providing training and retraining in appropriate skills.
- Giving security of income to people in transition between jobs.
- Facilitating the smooth and rapid entry or re-entry of workers into employment by efficient matching of workers available with jobs available.

3. Free Enterprise

Supply and demand are regulated by the market place to the maximum extent possible.

The first response to new technologies is to use them to make established businesses more profitable, especially industries based on natural resources.

Economic activity should evolve through the innovations and initiative of entrepreneurs rather than by the deliberate design of government.

Social and environmental costs should be borne by the community and conflicts resolved by contractual agreements or in the courts.

To maximise availability of private sector investment capital and increase opportunities for free enterprise the state should reduce its role in meeting needs such as health, welfare, communications, and energy.

Figure 3.5 gives examples of economic policies which would assist in establishing a free enterprise economy.

Figure 3.5 Economic Policies

- Barriers to an increase in the scale of industry are removed.
- Regulations constraining the activities of overseas investors are repealed.
- Import tariffs and import licences are gradually abolished.
- Government corporations are available for purchase by the private sector.
- Except for underground cables, barriers to private ownership and control of communications channels are removed.

4. International Trade

4*

The goal is to maximise trade and resource advantages and increase national income. New Zealand therefore needs to avoid alliances which constrain trade. Marketing skills are highly valued. New markets are sought by individual exporters, and through the marketing networks of transnational partners.

IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.

Economic Life 1980-2010

This is an export led growth economy. Its entrepreneurs are willing to buy and sell at the best prices on the world's markets. There is no protection of local industry. The fruits of the large scale extractive and processing industries are expected to trickle down to all through their need for services and by their capacity to generate profits for further investment and consumption.

Since no limits are placed on the rate at which natural resources are used up, pollution problems occur regularly. These are solved by negotiation with those most affected⁴. New Zealanders accept the significant changes to their landscape which results when open cast mining takes place or when the energy of wild rivers is converted to electricity. As one resource is used up a new resource is exploited. For example, people believe that by the time Maui gas is used up technologies will be available to harness solar energy or nuclear fusion energy. The large deposits of Southland coal can always be used. Sustainable resource use is not an important issue for people in this Context.

Profitability is the criterion for survival of an industry. The freedom from government intervention allows the economy to become responsive to new opportunities. Unprofitable businesses fail. Boards of directors react to market forces. Above all is the widely held conviction that New Zealand's wealth is in her natural resources, particularly her energy resources. New Zealanders should direct all their energies to assisting, directly or indirectly, in the extraction of this wealth.

Rising world oil prices and uncertainties in supply give New Zealand a comparative advantage in energy intensive industries. Natural gas, coal, hydro-electricity, and geothermal power are all utilised to fuel industries extracting metals such as iron from our ironsands and aluminium from Australian alumina. The introduction of a rechargeable aluminium-air battery which can power private cars efficiently helps to boost world aluminium prices⁵. Products based on our growing forestry resource also make attractive investments. The projected world shortage of wood opens up market opportunities for pulp, paper, and wood based building and construction materials⁶.

CNG, LPG, and synthetic petrol from Maui gas supplement imported oil. In response to increasing demand some entrepreneurs begin to produce petrol and other economic liquid fuels from coal before the gas runs out about 2010. Others continue to prospect for oil, gas, or other minerals. A few try to harness solar or wind energy cheaply.



The agricultural sector has potential for growth and offers investment opportunities on both a large and small scale. Wool, meat, and horticulture are best bets. Due to the increasing energy costs of intensive farming in other developed countries New Zealand's comparative advantage in agricultural products increases. Some overseas investors are attracted to this sector. They become involved in large-scale single-crop production for export to their home markets. These exports may be either fresh, frozen, or canned.

The size of the 200-mile economic zone and the nature of our fishing resource makes an increase in the scale of fishing industry companies inevitable. The owner-operated fishing boat practically disappears. Aquaculture (the farming of fish in rivers, ponds, and coastal locations) is a growth point in the industry. It provides some opportunities for small businesses. As the deep sea fishing resource is depleted and returns diminish the large companies turn their attention to aquaculture and this too increases in scale.

Those who control industry make the substitution of labour-saving technologies a high priority because of productivity gains and a reduction of the people problems associated with all types of co-operation. The freeing of labour resources in this way and the freeing of capital as older uncompetitive industries become unattractive allow private enterprise and the market to operate smoothly. Some of these resources are absorbed in the growth of the large scale extractive industries and related services. Some end up in small scale, technology-intensive or small scale, labour-intensive enterprises. These find a niche for their products in luxury or specialised markets in New Zealand or overseas. Electronic monitoring devices and quality handcrafts are examples. Others enter the personal and professional services area. The need for these grows as economic development makes increasing demands on the time of the skilled workforce. Services like domestic help, household maintenance, landscaping, entertainment and childcare become a profitable field for a new class of entrepreneurs.

Social Life in 2010

This is a busy mobile society where people can pursue many interests, join many groups, and become very wealthy. It is also a well disciplined society. For most people the discipline is imposed by the job market which focusses everyone's attention on achieving and maintaining material security by their own efforts. This apparent narrowing of interests increases economic efficiency and also the gross national product. Skilled workers are in demand and highly paid. Their rewards are easily spent in shopping centres, well stocked with the world's goods.

A 40-hour a week job is a goal for people and its achievement gives status. The government's labour market policy ensures that other work circulates fairly among unskilled workers. Most women with skills work. There is a marked spread of income. Families range from those with two high incomes to those in which neither parent has a regular job.

In this society in which people are expected to look after themselves, formal marriage is most important for the economic security of women with small children. There is a high rate of divorce and remarriage. One of the causes is economic stress and another is the job pressure felt by highly skilled couples who both work long hours.

Schools separate children from the mainstream of society. Vocational skills are important to everyone as are various qualifications or certificates of achievement. Students are also taught practical living skills. Nutrition, health care, gardening, and other useful subjects help people maintain their freedom and independence. Private schools are popular. Many parents are prepared to pay for "extras" which they believe will improve their children's job opportunities.

With industrial development and free trade with the world, cities have grown bigger and busier. By day they are peopled by businessmen and their employees. By night they offer entertainment and other diversions to rival their overseas counterparts. Motorways carry traffic smoothly and quickly through and around the cities. The private car fleet has completely changed. Different types of cars serve different purposes from commuting to long distance travel. A sizeable number have gas turbine engines, are battery driven, or use alcohol as a fuel⁷. Many run on New Zealand petrol made from Southland lignite.

New Zealanders can share in world sporting, cultural, and artistic events through the satellite communications network. Art exhibitions, musical events, live theatre, and international sports meetings are frequently staged in New Zealand with the help of financial support from local business interests.

Organisations are many and varied. In some, members band together to increase their influence and effectiveness. Thus trade unions remain strong and centralised and now support their members by providing a variety of welfare services. In others the purpose is to improve community welfare through voluntary social work or improve the physical environment by beautifying their neighbourhoods.

These New Zealanders are gamblers at heart. A high standard of living and the freedom and independence that go with it are the stake. Only a few can win maximum freedom of action in a centralised, stratified society. All have the opportunity to try.

FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

The main features of Context A's economic strategy are shown in figure 3.6. As far as possible these have been translated into inputs for the EMILY version of the Victoria Planning Model described in Appendix B.

Figure 3.6 Context A's Economic Strategy

- Major investments to promote fast growth in forestry, manufacturing, and energy production.
- Maximum use of labour augmenting technologies.
- Government expenditure becomes a smaller proportion of GDP.
- Maximum practical overseas borrowing.
- Free trade.

Figure 3.7 gives the model's view of how some important economic indicators develop between its base year 1976–77 and 2010. It assumes that maximum consumption is the economic goal to be achieved. The variations in results arise from testing the feasibility of . the strategy in a variety of circumstances.

MEASURE	RUN	THOUSANDS OF MILLIONS (1976/77 DOLLARS)
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
CONSUMPTION	2010 - if oil price rises by factor 3.5	
	2010 - if agric, terms of trade decline 20%	
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
IMPORTS	2010 - if oil price rises by factor 3.5	
	2010 - if agric, terms of trade decline 20%	
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
ÉXPORTS	2010 - if oil price rises by factor 3.5	
	2010 - if agric. terms of trade decline 20%	
GROSS DOMESTIC PRODUCT	1976/77	
	2010 - if 1976/77 terms of trade continue	
	2010 · if oil price rises by factor 3.5	
	2010 - if agric. terms of trade decline 20%	
ree: B. Philpott et al	· Project on Economic	5 10 15 20 25 30 35

Source: B. Philpott et. al.; Project on Economic Planning, Occasional paper 45, Victoria University, February 1981.

Figure 3.7 Context A Emily Results

The model runs indicate 2.5–3 percent economic growth per annum over the period 1976–77 to 2010. They also indicate that although all skilled workers would be employed, about one-third of unskilled workers (350 000) would be unemployed⁸. If the terms of trade for agricultural exports become worse there is little effect on growth or consumption. More exports are required to fund imports and as a consequence there is a little less unemployment among the unskilled. The effect of a rising oil price is more marked. Consumption is reduced, the oil import bill is increased. Significantly more exports are required to cover the oil bill if the same level of growth is to be maintained. There is again a reduction in unemployment among the unskilled as production for export increases.

The economic strategy of Context A is therefore feasible in the sense that it would result in a significant increase in wealth overall. There appears to be a problem in providing work for the unskilled. One response to this could be a reduction in the working week, particularly in unskilled jobs. Another could be the provision of more educational resources to upgrade the skills of the workforce and allow the economy to expand even further.

CONTEXT A-SUMMARY TABLE

BASIC PHILOSOPHY	 Y People are independent and optimistic. Use of natural resources and technology can increase prosperity for all. 	
 INTERPRETING THE PHILOSOPHY A free enterprise society, trading competitively on world markets. No need for government planning and controls. Paid employment achieves security. People put personal goals first. 		
VALUES AND POLICIES	 Equality of opportunity for basic education and employment. A Constitution and Bill of Rights form the foundation for settling conflicts. Barriers to free trade removed. 	
OUTCOMES (SPECULATIVE)	 New Zealand becomes part of world culture. Centralised institutions (unions, government, business). Largely urban living, quality of environment reduced. Wide disparity in incomes. Varying degrees of unemployment. 	

CHAPTER 4-CONTEXT B



- PHILOSOPHY: Leading to general guidelines for development.
- INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.
- VALUES AND POLICIES: Suggesting how values could be turned into action.
- IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.
- FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

BASIC PHILOSOPHY: Leading to general guidelines for development.

Individualism which accepts environmental limits is the starting point for this Context. It provides a solution to the problem of those who believe in the right of individuals to pursue their own interests while at the same time being forced by scientific observations to the conflicting belief that human communities should develop in balance with nature. By developing their problem solving abilities people can achieve a form of reconciliation of these two beliefs. Figure 4.1 sets out the basic assumptions of the philosophy and some general guidelines for development which flow from them.



INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.

In pursuing their own best interests individuals must take into account the consequences of their own actions as these help shape society. There is evidence to suggest that the environment cannot be exploited without affecting freedom of action in the future¹. People must learn new ways of expressing their individualism and use technologies which are not harmful to the environment.

DEFINING THE CONTEXT

Individualism

Freedom is important to the individual. In this Context it is the ability to choose between options. The more choices people have the greater the degree of freedom they have. Choices can be increased by allocating basic resources to all to use for the education they wish and the lifestyle they wish. Opportunities for small-scale private enterprise also increase choice. People in this Context are willing to change, innovate, and take risks to sustain their philosophy. They need to be well informed. They need an education system to help them anticipate opportunities to make progress without harming the environment.

Technology

Some limits are required on economic activities based on the extraction and processing of natural resources. People need to find new ways to create wealth. One interpretation of past trends, indicated in figure 4.2, suggests that another upswing in the world economy will start in the next decade; this time founded on low energy technologies based on the microprocessor². Low energy technologies which could give rise to new mass market products and fuel a new round of economic growth are already available.

gure 4.2	? Worl	d Econo	omic Cycles
Dates of	f Major		
World I	Depress	ions	
1790s			Age of textiles accelerates.
1840s			Railway age accelerates.
1890s	•••		Age of electricity and chemicals accelerates.
1930s			Age of the motor car accelerates.
1970s?	•••		Electronics and information age accelerates?

Computer and communications technologies have low energy requirements and are environmentally benign. As yet, there are no known limits to growth based on the production and marketing of computerised information and related services. They are capable of promoting a fundamental shift in the emphasis of an economy. They can do much more than substitute new and more efficient ways of doing things for old. They can give rise to new industries and new services which are based on the extraction and processing of knowledge rather than the extraction and processing of natural resources³. In this Context people believe these new industries are the key to transcending the limits to growth imposed by the natural environment.

The flexibility of these technologies presents opportunities to further a variety of styles of life as well as economic strategies⁴. The introduction of such a change agent needs to be guided by society's specific objectives for the present and the future. The new techniques can be used to aid participation in decision making by improving information flows. The telephone lines can be used to transmit voice, picture, or print. Figure 4.3 illustrates the type of nationwide computer and telecommunications networks that could exist in the future. A member of parliament could quickly test the views of his/her electorate on any issue. Opportunities for small-scale private enterprise in the new information market place depend on freedom of access to the electronic highways. People need the freedom to be both consumers and producers of information products and services if they are to have maximum choice. Thus communication rights are jealously guarded in this society.

Figure 4.3 A Simplified Computer and Telecommunications Network



Source: M. Harpham, Towards a Communications and Information Policy for New Zealand; CFF November 1980.

New Zealand in the World

People in this Context have a problem in trading with the outside world. Their environmental beliefs limit exports based on New Zealand's natural resources. They need to find other products to trade and they make a major effort to develop and export the specialised products and services of the computer and communications technologies.

They accept the need for New Zealand to become self-sufficient and sustainable in energy use. Thus they replace imported oil with indigenous fuels. On the other hand, they compromise their environmental beliefs by importing products made from other non-renewable resources. They also continue to import products from polluting industries.

VALUES AND POLICIES: Suggesting how values could be turned into action.

The people in a society developing from the philosophy just outlined would hold certain values and attitudes in common. These could give rise to the following goals and policies:

Innovative Education⁵

Anticipation of change and effective participation in decision making become goals. Access to educational resources is a right which may be exercised throughout life. Ecology, problem solving, technology, self-reliance, and communications are emphasised. Figure 4.4 indicates the kind of policies consistent with these aims which could produce an innovative education system in a society where choice and private enterprise are valued.



Figure 4.4 Education Policy

- The Government provides 18 years of personal education credits for each person.⁶
- The credits can be used freely except for a period of compulsory schooling.
- Standards are set and maintained by the government which also contributes to research into innovative learning.
- Good consumer information is provided to guide the individual's use of their educational credits.

2. Appropriate Technology

Technology should be used to promote economic growth while respecting environmental limits. There should be maximum use of low energy technologies, particularly computers and telecommunication applications. These technologies require policies to control their use so that people's social and economic objectives can be achieved. Figure 4.5 suggests such policies.

Figure 4.5 Communications and Information Policy

- Government controls internal communications channels such as telephone lines, broadcasting, satellites.
- Resources are devoted to developing and expanding these networks in anticipation of major growth in the communication needs of society.
- A Freedom of Communications Act is passed. This is based on the principles of open public access to information and freedom of the individual to use all media to provide information to others. (Media includes print, radio, television, telephone, electronic mail).
- To ensure access to the electronic media, government retains enough communications capacity to provide a variety of facilities nationwide, and at reasonable cost, for casual users.
- The balance of communications capacity is leased to private interests.

3. Diversity

Diversity of opinions and activities is accepted as strengthening society. This is promoted by providing equality of choice in using educational resources and equality of access to information as outlined earlier. It is further encouraged by dismantling many government institutions. Functions such as public works and health care are taken over by private enterprise. People believe that some degree of financial independence is also necessary to promote diversity and choice. They, therefore, accept that the government should redistribute some wealth using an income maintenance scheme. Apart from the educational credits and this scheme, no other government support is provided. Figure 4.6 lists the main features of a suitable income maintenance scheme.

Figure 4.6 Features of an Income Maintenance Scheme

- A negative income tax is introduced.
- All over 15 years of age are entitled to the same minimum income.
- Those who earn less than this minimum receive a payment from the government.
- Those who earn more than the minimum pay tax to the government.

4. The Environment

People in this Context wish to achieve a balance between production from the natural environment and protection of the environment. They accept government regulation of activities affecting the environment. In view of the approaching end of the oil age, a policy to achieve energy self-sufficiency and sustainability is pursued vigorously. Figure 4.7 indicates appropriate environmental policies.

Figure 4.7 Environmental Policies

- Sustainable levels of resource use are established and monitored.
- Pollution is controlled to levels that the environment can absorb.
- Environmental research is the responsibility of the government.
- There is immediate intervention in the market place to achieve energy self-sufficiency first and then energy sustainability.

IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.

Economic Life 1980–2010

New Zealanders are determined to share in the benefits of the new wave of growth in the market for information. These benefits are increasing wealth and more jobs. People and government combine in a drive to increase activity in the information sector of the economy⁷.

The gathering and processing of information becomes more efficient and attractive through use of computerised information-handling technologies. Because of this, many jobs are lost from traditional industries and from services such as banking. A range of new information consumer goods and services becomes available through computer terminals. Examples are share market reports, classified advertisements, electronic mail, games, entertainment, and educational packages. An expanding market for such goods in New Zealand and overseas provides more opportunities for New Zealand entrepreneurs and New Zealand job seekers than the expansion of our heavy industrial and agricultural base. A reduction of import duties on computers and other silicon chip-based products further stimulates local demand and this local industry.

Due to the new education system people are increasingly innovative and highly skilled. Many small-scale low energy skills and knowledge-based industries grow and export on the base of a stable New Zealand market and better communications. Quality handcrafts are an example. Export markets also exist for devices based on the chip like tree growth recorders, household appliance controls, car diagnostic and maintenance aids, and other control systems. A New Zealand terminal manufacturing industry thrives after initial support by government purchasing guarantees.

Because a high value is placed on individuals pursuing their own interests there is a willingness to take risks. Capital is more readily available to small, risk ventures, especially in the new technology, agricultural and horticultural areas. Some larger-scale extractive and processing industries and the new energy producing industries also need capital during the earlier part of this period so overseas borrowing occurs.

To underpin the growing information sector, industries based on renewable resources such as wood and fish grow to sustainable limits. Surpluses are available for export since population growth is slow. The agricultural and horticultural sectors provide new opportunities for private enterprise. New Zealand makes a relatively low energy input to these sectors and is therefore able to export successfully specialised, high-value crops such as blueberries and cut flowers as a follow-on to the successful kiwi fruit exports of the 1980s. Similarly a moderate increase in tourism contributes to growth without adverse environmental impact and increases opportunities for private enterprise and employment.

Maui gas and hydropower form the basis for energy self-sufficiency⁸. Reticulated natural gas, CNG, LPG, methanol, and electricity gradually replace imported oil in all sectors. Substantial economic activity is generated by this changeover. Public conviction that it is essential to free New Zealand from the direct effects of oil price rises and supply problems enables the government to manage this process successfully. The foundation for the final goal of energy sustainability are laid early by investment in the research and development of electric cars and liquid fuels from biomass. Innovation and individual enterprise also lead to a variety of small-scale efforts to harness the energy of the sun, the wind, and other renewable energy resources.



Social Life in 2010

There is more choice, more change in people's lives. Improved communications have reduced the inequalities of town and country and helped to reverse the drift to the larger centres. A reduction in travel due to increased fuel costs has also helped to strengthen small communities.

More people can work at times of their choice. Innovative and adventurous employers can attract like-minded staff with good results for all. Trade unions assist in achieving fair rewards in many new types of employer-employee contracts. The trend to more flexible lives intensifies because of income maintenance⁹. This has made periods out of the paid work force and periods of part-time work more common. Unemployment as it existed in the 1980s is unknown. The communications networks enable employers and unions to co-operate with each other to match skills and availability of workers with the requirements of industry¹⁰. However, people live in a private enterprise economy and competition for skilled labour leads to marked inequalities of income. Income maintenance for all allows labour to be regarded simply as a resource for production. Wage rates are not based on any form of breadwinner concept.

Because people value the freedom to live diverse, flexible lives there are marked differences in the way they judge their quality of life. They want to meet their needs in many different ways. Some want material prosperity and use their educational credits to improve their earning capacity. Others prefer to develop their artistic or nurturing ability and find these skills in demand too. Medical services are diverse. Healthy living to prevent illness is promoted by some doctors while others offer the best cures that complex technology can offer.

The joint responsibility of government and the private sector for innovative education is a complete break with tradition. People learn what they want to learn. The credit system promotes active experimenting to find successful teaching techniques. Success is measured by the satisfaction of the students and by evaluating what has been learnt. Teachers range from the graduate career teacher to people in the community who have skills of interest to others. Theory and practice in education feed on each other and develop rapidly.

The family has changed. The provision of income maintenance for both men and women reduces the need for them to have different roles within it. All adults contribute to breadwinning, nurturing, and socialising of children. They move freely between these roles. Attitudes to marriage vary in a society of many choices. Some couples build the stability and security they need in a long-term relationship. Others meet changing needs with new partners. Since children with their parents' help can choose the type of school they attend, more is expected of young people. Teenage rebels are less common. On the other hand, people of all ages risk the stress of frequent choice and the pressure to be self-reliant at all times¹¹.

Use of the communications and information networks . speeds up the spread of ideas and has established the habit of participation in decision making. Nation-wide networks of like-minded people form quickly and easily to debate issues with government decision makers and each other. Homes and offices are wired for information, with information sockets, like three-pin power points, in every room. A variety of different products can be plugged into these information-carrying lines which replace the old telephone lines. These devices range from television and audio (radio) sets to control systems for household electrical appliances. Video display units (terminals) enable people to access libraries, receive news and messages, do banking, arrange travel, and do remote shopping as well as seek professional help on health, education, and other matters.

The people in this New Zealand are trying to achieve prosperity without loss of choice; to make technology serve them rather than shape them. They accept that each step in creating their new society will uncover new problems for them to solve.

FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

The main features of Context B's economic strategy are shown in figure 4.8. As far as possible these have been translated into inputs for the EMILY version of the Victoria Planning Model described in Appendix B.

Figure 4.8 Context B's Economic Strategy

- Growth in and exporting from all sectors. Increasing emphasis on service sector exports.
- Growth in forestry and other energy producing industries to provide independence from oil imports and energy sustainability.
- Sustainable use of all resources.
- High rate of technical change.
- Government expenditure becoming a smaller proportion of GDP.
- Value of exports equals value of imports.

Figure 4.9 gives the model's view of how some important economic indicators develop between its base year 1976–77 and 2010. It assumes that maximum consumption is the economic goal to be achieved. The variations in results arise from testing the feasibility of the strategy in a variety of circumstances.

Figure 4.9 Context B Emily Results

MEASURE	RUN	THOUSANDS OF MILLIONS (1976/77 DOLLARS)
TOTAL CONSUMPTION	1976/77	
	2010 - if 1976/77 terms of trade continue	
	2010 - with higher government consumption	
	2010 - with private consumption changed	
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
IMPORTS	2010 - with higher government consumption	
	2010 - with private consumption changed	
	1976/77	
τοται	2010 - if 1976/77 terms of trade continue	
EXPORTS	2010 - with higher government consumption	
	2010 - with private consumption changed	
	1976/77	
GROSS DOMESTIC PRODUCT	2010 - if 1976/77 terms of trade continue	
	2010 - with higher government consumption	
	2010 - with private consumption changed	
rce: B. Philpott, Un	published Results.	5 10 15 20 25 30 35 40

Project on Economic Planning, Victoria University, April 1981. The model runs indicate 2.0–2.5 percent economic growth per annum over the period 1976–77 to 2010. They also indicate full employment.¹² Poorer terms of trade for agricultural products or a rising oil price have little effect on the economy. The service sector is able to increase its exports to make up for the loss of income from agricultural exports. Because of its energy policy a New Zealand with this economic strategy would be reasonably insulated from world oil price rises.

Although the income maintenance scheme could increase demand for part-time work or breaks in service, this could well be balanced by an increased participation in the workforce of the young, the old, and women. The priority given to education would ensure that there was a highly skilled and flexible workforce on which to base this growth strategy. The final rate of growth would depend on the choices individuals made between income and leisure.

CONTEXT B-SUMMARY TABLE

BASIC PHILOSOPHY	People are independent and innovative. A healthy environment is maintained by limiting pollution and resource use.		
INTERPRETING THE PHILOSOPHY	 Government controls accepted to protect environment, to increase choices for all. Economic development based on computer and communication technologies, sustainable resource use, energy self-sufficiency. 		
VALUES AND POLICIES	 Diversity and choice sought through small-scale private enterprises, equal education credits for all. Balance between production from and protection of the environment achieved by government controls Innovation and problem solving enhanced by new education system. 		
OUTCOMES (SPECULATIVE)	 Industries mixed in scale. Good quality environment. Innovative, educated people have best life chances. Flexible work patterns. People's goals vary. Periods out of paid work force accepted as normal in all occupations. Increased participation in decision making. 		

CHAPTER 5-CONTEXT C



- PHILOSOPHY: Leading to general guidelines for development.
- INTERPRETATION OF THE PHILOSOPHY: Providing a foundation' for development.
- VALUES AND POLICIES: Suggesting how values could be turned into action.
- IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.
- FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

BASIC PHILOSOPHY: Leading to general guidelines for development.

In this philosophy people value equality. The environment and all its resources exist to meet the needs of people equally. By co-operating with the institutions of their society people work to achieve their common goals.

Figure 5.1 sets out the basic assumptions of the philosophy and some general guidelines for development which flow from them.



INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.

People in this Context realise that equality has many different aspects. They regard two of them as being of major importance. First, if they are to be equal, New Zealanders must be able to meet their own basic needs for food, shelter, clothing, and health care at a level which gives each and everyone a feeling of community and self-respect. This requires that society as a whole controls the distribution of wealth. Second, to be equal also means that all New Zealanders have equal opportunities to develop themselves in their own, perhaps quite different, ways. To encourage equality of self-development requires individual freedom. The way people try to solve this dilemma between control and freedom shapes this Context for development.

DEFINING THE CONTEXT

Changing Human Activity

People take seriously the changes brought by technological revolutions. They believe that eventually the need for paid formal employment will shrink; that leisure time will grow. They use this insight to create their equal society.

People in this Context believe that only if they do work valued by themselves and their peers can they achieve self-respect and the respect of others. So everyone must do a job. Yet free time too is needed if self-development is to take place. If everyone is guaranteed a socially-useful paid job at reduced but formally-set hours, then people have both work and leisure. Those who wish to develop themselves by earning more money can do so. Those who want to do nothing beyond the required job have that freedom.

A New State

People in this Context adapt the state to achieve their ends. In the past a strong, centralised state structure has been used to distribute wealth a little more fairly. However, people recognise that this has created as many ills as cures. They accept that the welfare state has been useful in allocating things material. But its regulations have also often robbed people of independence and deprived them of self-respect.

The adapted state ensures that everyone has equal means to meet his or her basic needs. In return for working specified hours or filling set production quotas, the government pays people an equal living wage which is sufficient to buy basic necessities. Beyond this involvement in a *Necessity Sector¹*, the part played by the government in people's lives changes. For example, people are free to own their own businesses and profit from their enterprises provided they fulfil their responsibilities to the *Necessity Sector*. These responsibilities include paying a set proportion of their incomes into state coffers. In return they receive the same living wage as all other individuals over the age of 15. Only if they exceed a maximum amount of income will they have to pay taxes on income above the *Necessity Sector* levy.

Economic Developments

People accept that New Zealand must improve its standard of living. Economic growth is needed to provide the flexibility to meet social goals. However, the anti-equalitarian influences of transnationals are resisted. Overseas investment is treated suspiciously. New Zealand resists importing either capital or goods which cannot be paid for by current exports. In short, a rapid industrialisation policy cannot be pursued in this Context.

An alternative development path is provided by agriculture². People believe that traditional farming can be diversified and made more efficient: for example, by using genetic engineering and computer technology. Aware that most New Zealanders will continue to live in cities, people in this Context try to maintain a variety of manufacturing industries. Similarly conscious of the uncertainty of supply and the rising cost of imported oil, they use gas and coal to make New Zealand as energy self-sufficient as possible.

VALUES AND POLICIES: Suggesting how values could be turned into action.

People developing a society according to the philosophy just outlined, hold certain values and attitudes in common. These could give rise to the following goals and policies:

1. SOCIETY

Society exists to ensure that all its members:

Can meet their basic needs equally well; Have equal opportunity to satisfy their selfdevelopment needs.

The government acts to achieve these purposes of society with policies in the following areas:

Work and Leisure Activities

Under this heading fall the major policy innovations of this Context. Human activity is divided into two sectors: *A Necessity Sector* in which everyone over 15 is employed in socially useful work. They are paid a living wage set by government. The living wage is the same for everyone. It enables people to buy all basic necessities: food, shelter, clothing, and general health care.

A Freedom Sector in which everyone over 15 has the opportunity for self-development. This can take any form from extra work for extra pay to doing nothing.

Figure 5.2 gives some idea of the way different people might spend their lives under this two-sector regime:

	Activity in Necessity Sector	Activity in Freedom Sector
Wage and salary earners	A set number of hours per week (say 30)	Leisure or further work at negotiated rates
Self-employed and employers	Payment of a necessity levy which is a set proportion of income	Leisure or earning more (income above necessity level is only taxed if it is "excessively" high)
Contract workers (mothers, fathers, students over 15, handicapped)	Fulfil set duties in return for living wage	Leisure or part-time work at negotiated rates

Social Services

In this Context the government sheds a number of its traditional responsibilities. With the creation of the all-embracing *Necessity Sector*, the payment of cash benefits can be phased out. However, the creation of the Necessity Sector involves the state in new welfare commitments. Figure 5.3 outlines the areas of state involvement.

Figure 5.3 The Social Service State

- Financing of the living wage to those active in the *Necessity Sector*.
- All education services.
- Health services and advisory services.
- · Some transport and communications services.
- Recreation and leisure services.

Reform of Decision Making

The government tries to sustain the co-operation of New Zealanders by reforming the methods of decision making in all its many agencies. For example, reform of the government and the electoral system is undertaken. The new communications technology is used to spread the decision making functions. Terminals in every home enable the government in Wellington to stay in touch with people in every part of the country through holding opinion polls. Decentralised welfare agencies bring bureaucracies close to the people. Figure 5.4 summarises the reform of New Zealand's democracy.



Figure 5.4 Democratic Reforms

- Electoral System: Proportional representation on elected bodies of all major groups e.g. Maoris and women.
- Parliament: Party discipline in parliament is removed. (M.P.s represent their constituents not their parties).
- Decision Making: On clearly defined issues M.P.s must consult with their constituents before voting.
- Administration of the Necessity Sector: Regional and community councils are voted sums of money to administer the Necessity Sector.

2. PRIVATE ENTERPRISE

- Private enterprise exists to:
- provide work opportunities for those who want to earn more than the living wage;
- provide revenues to help finance social services;
- produce those necessities of life not produced by the government;
- produce goods and services to satisfy self-development needs.

The government tries to make large businesses and interest groups more accessible to people. Their governing boards are required to have representatives from government and community groups. Taxation policies, which prevent very large profits, encourage the development of smaller businesses.

3. THE PHILOSOPHY

- The philosophy is maintained by:
- using the education system to teach the social values of the society;
- adopting an economic strategy which makes possible a rising income for all.
- The following policies would assist in this:

Education Policies

Education provides the key to an equalitarian New Zealand. Access to knowledge must be available to all. Reading, writing, and arithmetic are not enough. Knowledge of how to learn, how to use the political system, how to relate to others is taught. A flexible education system gives second and third chances to those who want them. Formal retraining schemes and informal learning exchanges are fostered by opening school facilities to the community.

An important point of the curriculum is the teaching of equalitarian values. Sharing behaviour is rewarded. Parenting and other caring skills are taught. Events in New Zealand and the world are interpreted from the point of view of a people who can meet their basic necessities equally and who have equal opportunities for self-development e.g., the school curriculum emphasises the anti-equalitarian tendencies of the transnationals.

Economic Policies

Agriculture, manufacturing, and tourism generate overseas exchange: energy self-sufficiency aims to save it. Figures 5.5 and 5.6 summarise some economic and energy priorities of the people in this Context.

Figure 5.5 Economic Policy Priorities

- The government establishes and at least partly owns and controls large-scale enterprises like pulp and paper mills and energy projects.
- The government provides research and information services to achieve and maintain a suitable mix of products. It— Monitors overseas market trends. Establishes research associations.
- The government tries to encourage greater productivity by—

Helping with marketing. Providing cheap finance to establish small businesses. Subsidising the purchase of capital intensive

equipment.

Figure 5.6 Energy Policy Priorities

• Maximum use is made of natural gas and coal to achieve transport fuel self-sufficiency. The necessary plant to achieve self-sufficiency is built—

Methanol plants using natural gas and coal. A synthetic gasoline plant. CNG and LPG distribution networks.

- Restraints are placed on consumption of energy
- in the transport field as required. For example— Pricing policies can encourage the use of public transport. Engine sizes of private motor cars can be restricted.

IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.

The Agricultural Sector in 2010

Pastoral farming remains the mainstay of agriculture. Farmed on the four-fifths of farmland which is hilly are sheep for wool and meat, cattle for beef and hides, deer for venison and velvet. Wool and meat retain their competitive edge on world markets due to low-energy requirements. Also, with the assistance of computer technology, handling, manufacturing and marketing methods are improved. Dairy farming has been pushed off the flat lands into more hilly areas by horticulture. Multiple use of land is widespread. Combination farming of trees, pasture and crops is popular. Beekeeping and rabbit farming are also practised in combination with other types of farming³.

Farm ownership patterns have changed from the 1980s. The concept of sharemilking has been extended to all forms of agriculture. One person may own the land, for example, while others use it on a share basis. One individual owns shares in the tree production, another in the crops and a third in the animals. This ownership pattern helps people to choose a life of leisure after they have made their statutory contribution to the *Necessity*^{*} *Sector*. The wide variety of machines and skills needed for multiple farming is provided by contractors. Their contribution is vital. Not only do they make available specialised machines, they offer the additional employment opportunities which have made rural re-population feasible.

New Zealand farmers enjoy a reputation for innovation. Genetic improvements of stock and pasture, for example, are eagerly sought. Superior sires are cloned. A national, computerised animal recording scheme aids breeding decisions. Computers are used to monitor the health of animals. New species of plants and fruit are grown for their medicinal value. The strategic placement of woodlots provides shelter for stock and prevents erosion.



Social Life in 2010

The government plays a central part in people's lives. It maintains the delicate balance between equality which can only be gained through control and equality which can only be gained from freedom. Through its agencies come the credits to buy basic necessities. The division of labour into "caring" and "earning" roles ceases as all adults are guaranteed a basic minimum of equally paid work. The contributions to society of both sexes and all age groups are valued equally. While good parenting skills are valued, the need for lifelong marriages diminishes. Instead, people live in a variety of relationships as they travel through life.

The nature of work varies. To maintain "full employment", entirely new kinds of activities are seen as socially useful. True, in 2010 many people are still employed to produce goods and services for export and internal consumption. Indeed more people than today work in agricultural jobs. But more and more people are employed in community services or information occupations. Clowning and sports, mothering, and "at home" community advising, for example, are recognised careers. Education services in particular provide many jobs as leisure-time learning for self-improvement is encouraged. Many people use their leisure without thought of material gain. They enjoy an active outdoor life, follow literary pursuits or take the many opportunities to further their education. For others, earning and leisure merge into one pleasurable activity.

Others again learn to make money from their leisure-time activities.

Material standards of living rise. Everyone has enough income to spend on food, shelter, and clothing. The government also provides very comprehensive health and education services. It subsidises communications equipment needed by people to play a full part in making decisions. Beyond these basics, people determine their own lifestyles. Many seek extra income in their younger vears. As they grow older they choose to spend most of heir free time at leisure. However, the society frowns upon anyone having too much personal wealth. People naturally gifted at making money have to accept a limit on their personal possessions. While diversity, in housing styles for example, is encouraged, the accumulation of great wealth is discouraged by the taxation system.

Most people continue to live in cities. They may not identify themselves as "Aucklanders" or "Dunedinites", however. As neighbourhood employment schemes and services grow, local decision making takes root. People identify more with their localities in, say Mt Eden or Mornington. The principle of equality has led to services in rural communities being upgraded. Improved communications, health care, education, and leisure facilities give a psychological boost to people living in the countryside and attract more people to work in the vital agricultral sector. Moreover, in treasuring equality, people in this Context encourage some diversity. For example, as long as they do nothing to undermine the philosophy of equality, people belonging to minority cultures or religions are encouraged to live their own lifestyles. Maori language, for example, enjoys a renaissance.

FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

The main features of Context C's economic strategy are shown in figure 5.7. As far as possible these have been translated into inputs for the EMILY version of the Victoria Planning Model described in Appendix B.

Figure 5.7 Context C's Economic Strategy

- Agriculture is the main investment and trading sector.
- Labour augmenting technologies used in agriculture.
- Value of exports equals value of imports.
- All employed in useful activities for 30 hours per week. Some work longer.
- Government expenditure about the same proportion of GDP as at present.

Figure 5.8 gives the model's view of how some important economic indicators develop between its base year 1976–77 and 2010. It assumes that maximum consumption is the economic goal to be achieved. The variations in results arise from testing the feasibility of the strategy in a variety of circumstances.

The model runs indicate about 2–2.5 percent economic growth per annum over the period 1976–77 to 2010. They also indicate full employment⁴. The effect of poorer agricultural terms of trade is to reduce import levels and consumption a little. Unless demand restraints are introduced, increasing oil prices result in increased oil import bills and the need to increase agricultural exports to cover these. There is no adverse effect on employment.

Context C's economic strategy is capable of increasing New Zealand's wealth and providing full employment. With the redefinition of work according to the Context's social policies, the participation rate in the workforce would be much higher than that used by the model. There would, however, be a trade-off between increasing national income from development of the agricultural sector, and increased leisure or socially useful activities.

Figure 5.8 Context C Emily Results

MEASURE	RUN	THOUSANDS OF MILLIONS (1976/77 DOLLARS)
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
CONSUMPTION	2010 - if oil price rises by factor 3.5	
	2010 - if agric, terms of trade decline 20%	
	1976/77	
TOTAL	2010 - if 1976/77 terms of trade continue	
IMPORTS	2010 - if oil price rises by factor 3.5	
	2010 - if agric, terms of trade decline 20%	
(· · · · · · · · · · · · · · · · · · ·	1976/77	
τοται	2010 - if 1976/77 terms of trade continue	
EXPORTS	2010 - if oil price rises by factor 3.5	
	2010 - if agric. terms of trade decline 20%	
	1976/77	
GROSS DOMESTIC PRODUCT	2010 - if 1976/77 terms of trade continue	
	2010 - if oil price rises by factor 3.5	
	2010 - if agric. terms of trade decline 20%	

Source: B. Philpott et. al.; Project on Economic Planning, Occasional paper 45, Victoria University, February 1981.

CONTEXT C-SUMMARY TABLE

BASIC PHILOSOPHY	 People are responsible for others as well as for themselves. There are no limits to resource use.
INTERPRETING THE PHILOSOPHY	 Government should provide work and basic income for all, opportunities for self-development. Transnational investment unacceptable—would interfere with government planning.
VALUES AND POLICIES	 Economic growth based on agricultural sector. Government planning enables all to meet their basic needs. Definition of work extended to all socially useful activities. Some decision making at local level. Defining work, opportunities for recreation, further education. Education inculcates philosophy of equal rights and responsibilities.
OUTCOMES (SPECULATIVE)	 No great disparity in incomes. Rising basic income. Diversity of lifestyle within society's rules. Shorter working week. All over 15 carry out socially useful activity of some sort. Conspicuous consumption discouraged.

CHAPTER 6 - CONTEXT D



- PHILOSOPHY: Leading to general guidelines for development.
- INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.
- VALUES AND POLICIES: Suggesting how values could be turned into action.
- IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.
- FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

BASIC PHILOSOPHY: Leading to general guidelines for development.

This Context is based on a philosophy of interdependence. Only if each individual can limit personal ambition and share in the common goals of society can the community as a whole survive.

Human interests and welfare are best served by accepting that all communities have a joint goal and

responsibility to preserve the common environment on which they all depend for survival. They must preserve and protect the environment for posterity as well as for themselves. Figure 6.1 sets out the basic assumptions and also some general guidelines for development which flow from them.





INTERPRETATION OF THE PHILOSOPHY: Providing a foundation for development.

Interdependence

People in this Context see that human existence is dependent on nature, of which humanity is but one part. All elements in the ecosystem are interconnected; change in any element or part affects all others. There are limits in the capacity of the biosphere to adjust to human activity and remain healthy. The survival of human, social and economic activity depends on an ability to live in harmony with each other, and the natural environment¹.

Successful systems, natural or social, are complex rather than simple. A healthy social system will be diverse, encouraging self-sufficiency in individuals and communities. These features ensure the stability of the system by enabling it to deal successfully with unexpected pressures or events.

The Common Good

This philosophy tries to unite the interests of all within the common good. It accepts that individual people are the ultimate unit of society. We need individuality in thinking and acting so that the community can respond and adapt to the unexpected. But at the same time, we need a common underlying ethic so that problems and disagreements can be resolved within a shared framework. Unlimited individual freedom leads to disaster for everybody in a world of scarcity². But restrictions cannot simply be imposed from above, for this reduces flexibility. Individuals must limit their own behaviour in accord with the principles of equality and sustainability discussed below.

DEFINING THE CONTEXT

Equality

People in this Context are committed to the belief that all persons are of equal intrinsic worth. They accept that people are not identical in ability, initiative, or strength. They see, therefore, that the needs of all individuals must merit equal respect and attention. They value personal liberty, but they see that the security of all depends on a fair and just distribution of community wealth. Thus, in their dealings with others, the principle "from each according to his talents, to each according to his needs" is the relevant guide to action and the appropriate motive for work.



Sustainability

The philosophy recognises that nature imposes absolute limits on resources. Economies must come to terms with this requirement³. Mature economic systems cannot simply grow forever but must develop in non-material areas. Art and cultural activities, the pursuit of knowledge are "goods" not inherently limited by environmental constraints. There is a requirement to use earth's resources wisely, and frugally, to design commodities with utility and durability in mind. A system of production is needed for this Context that is in equilibrium with the basic ecological support systems, and which can develop to satisfy higher aspirations and goals for all.

In relationships with the natural world, day to day pragmatism is not enough. Every-day demands are always real, but the primary duty is to ensure that the essential character of our unique environment is maintained and preserved. New Zealand has a unique system of flora and fauna which evolved over 80 million years. In the short time of human habitation much of this diversity has already been lost. An ethic of land use is required, based on a sound appreciation of the value of diversity in nature, and which recognises the human need to satisfy both physical and spiritual requirements.

The Concept of Community⁴

The problem for this Context is to reconcile individual self-reliance with an insistence on minimal differences in wealth, status, and power. At the same time, natural limits to economic activity are recognised. It is a question of human scale. The philosophy recognises that if and only if the individual can feel a real commitment to others can conflicting interests be reconciled. It is in smaller independent communities where contact with others is direct that sympathetic relationships between people foster personal understanding of their individual needs and goals. When each individual, whether artisan, farmer, or councillor, is in contact with others, and sees the crucial part each and every person plays in developing the unique character of the community, then right conduct towards others becomes natural. Good neighbourliness ensures that self-reliance does not mean hardship for the less able. No particular definition of appropriate scale can be given. It depends on the focal point of interest. But it is known that when populations exceed say 40 000, personal conduct and effectiveness declines; hierarchies and elites develop⁵. Control must be retained by those whose needs social institutions are to serve. The basic requirements for all are satisfied at the community level, including elementary education, justice, and health.

Where a society comprises small, diverse, and often rural self-sufficient communities, a good communication system is necessary if all the people are to be aware of common dangers and opportunities. With the new communications technology, people in this Context can avoid the insularity and narrowness of outlook which in the past detracted from the quality of rural life.

Appropriate Technology

The role of work in individual development is important. Individuals need to feel personally involved with what they do and make. They need to work in harmony with nature in order to understand the world around them⁶. They also have a right to share in the management of their work situation. Technology is a means, not an end in itself. It must be controlled by society in the interests of all. Whether based on the draught-horse or the silicon chip, a technology will be appropriate for this Context if it is one which satisfies these values and beliefs⁷.

New Zealand in the World

New Zealand is a small country. It cannot hope to bring about world acceptance of the space-ship-earth philosophy on its own⁸. But it can help in the international efforts to preserve endangered species of wild life. New Zealand can be involved with others in the production and design of appropriate technology. It can assist poorer nations with self-help schemes. A sustainable New Zealand economy would not require foreign imports or capital and the necessity for foreign trade would be reduced over time. Any funds required for essential technological innovation can, however, always be acquired by exporting agricultural surplusses.

VALUES AND POLICIES: Suggesting how values could be turned into action.

People developing a society according to the philosophy just outlined hold certain values and attitudes in common. These could give rise to the following goals and policies:

SELF RELIANCE

Self-reliance in necessities is the basic aim of both individuals and communities. It is a goal rather than a strict requirement. All round development rather than excessive specialisation produces efficiency and diversity. Less division of labour in the community fosters understanding and flexibility as well as personal satisfaction. At the same time the need to maintain traditions is not forgotten. It is especially important that women and vulnerable persons, e.g., the aged and the handicapped, do not feel trapped by narrowly defined roles. It is an essential part of everybody's life to take part in decision making and community affairs.

Education for Survival

It is recognised by all that diversity in individual ability and freedom in intellectual inquiry have to be reconciled with the need for universal acceptance of a common ethic of stewardship for nature, and sharing. The possession of information and facts are no substitute for understanding and intimacy between persons. Education must prepare the citizen for a useful social life. It is recognised that the development of skills and values first takes place in the home. Therefore the community as well as institutions must be involved in education. Figure 6.2 sets out guidelines for education in this Context.

SOCIAL HARMONY

There must be a balancing of interests, both within and between the various regions if social harmony is to be maintained. For example, the autonomy of a small fishing village should not be threatened by the existence of larger urban centres whose activity and orientation are quite different.

Quite different governing bodies exist at several levels to ensure that the self-reliance and diversity of communities is preserved.

Government and Society

In a society comprising largely self-reliant communities the role of central government is modified and reduced⁹. Unity of interest is forged at the local level.

Figure 6.2 Guidelines for Education are:

- Community provision and control at the elementary level.
- An holistic approach to understanding the world. Disciplines should be integrated to ensure recognition of universal problems and principles.
- General skills valued as well as specialist skills.
 No conflict seen between scientific understanding and the appreciation of values.
- Theory and practice related at all levels to ensure the relevance of education.
- The importance of one's cultural heritage for security, identity, and belonging recognised.
- Co-operative problem solving fostered in academic activity as well as social.
- Success and failure not significant. It is important that individuals master skills at their own pace rather than strive to compete with others.
- Education in civic responsibility required. Education encourages all individuals to acquire a wide range of skills. In this way individual choice can be maximised and self-reliance increased.

Therefore nationwide partisan politics lose their rationale.

Differences of opinion are aired at community forums. Local problems and priorities are decided at borough and county levels rather than in the national arena. These councils fund and co-ordinate the provision of health care and education at the primary and secondary level. They provide a forum for discussing and deciding environmental issues. They provide funds for community co-operative enterprise. They are also responsible for primary taxation and are therefore in a position to provide income support where necessary.

Figure 6.3 sets out various levels of government and judicial institutions.

Political System

Communities and Local Councils

The bases for participatory democracy. Discuss actions of various councils and regional and national assemblies; as well as matters of local importance.

Borough and County Councils

The primary administrative units of society. Responsibilities include taxation, the provision of health care, and basic education services. Members are chosen by ballot (with right of refusal).

Regional Assemblies

Serve as forums for local, borough, and county differences. Maintain overviews of distinct geographical areas. Delegates elected by boroughs and counties.

National Assembly

Co-ordinates regional interests and handles international contacts. Establishes national guidelines for production and environmental protection. Delegates elected.



Crucial functions remain for national government but the direction of activity has changed. Since new economic practices provide opportunities for individual self-help, national welfare programmes are no longer required. The government is consultative. It co-ordinates regional points of view in a parliamentary situation to achieve national direction. The idea of "the nation" cannot be promoted from the top. It must be generated at the grass roots level. Government draws the strands together and sets the limits. Figure 6.4 lists areas in which nationwide policies will be needed.

Figure 6.4 National Policy Areas¹⁰

- It provides guarantees whereby all individuals have access to knowledge which is an integral part of our culture. It underpins our common point of view. To be well-informed is a prerequisite for responsible citizenship.
- It imposes general standards for welfare, i.e., it defines a social minimum and maximum for personal income.
- It provides national courts of appeal to protect against the possibility of parochialism in community justice.
- It provides national services (e.g., communications and transport) and major industries such as those required for the large-scale production of energy; and thereby provides income to finance technological development and also employment for the less community-minded.
- It provides export outlets for surplus production.
- It sets national limits of resource depletion and standards of product durability.
- It provides tertiary education and specialist health services.

Participation and Representation

Community councils involve all interested citizens so that the expression of opinion at the community level is democratic. At the borough level, all citizens have equal right to represent their local point of view. Councillors are selected from a universal ballot similar to that provided for jury service but with right of refusal. Terms of office are for a maximum of 4 years, with a 2-yearly turnover of half the council.

Candidates are selected by the borough council for office at the regional assembly. This is the appropriate level of government for unifying diverse communities and interests.

The national assembly (parliament) is made up from community representatives who are elected by the nation every 4 years. National referenda are held on every issue deemed by community representatives to be a matter of national importance. If the right to receive as well as provide information by means of the new communication technologies is universally guaranteed, then democracy will be enhanced.

ECONOMIC VALUES

Production

In a complex, interdependent society, production is essentially a social affair, the result of co-ordinated and inter-related activity, rather than simply individual initiative. There will always be rugged individualists manning lighthouses and high country sheep stations. But it is not accepted that people can only be motivated by thoughts of personal profit or gain. Creative work can be an end in itself, and working with or for others a genuine reason for activity. Individual, material success must not be at the expense of public amenities.

Mass transit systems and community fleets are of more importance than private transport. Rapid obsolescene in products and production prevents continuity in culture and the development of traditional skills. What is needed therefore, is an economic system that provides security, promotes democracy in the work place, ensures equality and operates in harmony with the natural world. Figure 6.5 lists policies relating to production.

Figure 6.5 Features of Policies Relating to Production

- Co-operative ownership and small scale is preferred in industry wherever appropriate.
- The control of basic service utilities and capital investment is exercised by local government. Where large-scale is appropriate for efficiency (e.g., hydro-electricity generation, national transport systems), such industry is owned and controlled by the whole of society.
- As a general rule land rental is more appropriate than private ownership.
- National limits are set to the amount of wealth that a productive enterprise can acquire or control.

Export and trade are no longer the driving force of the economy. A reduced but significant role for overseas trade remains, with surplus production being marketed through a national export board. Surpluses can be produced and used to further the commitment to justice on an international scale. New Zealand can provide some stocks for a world food bank. With changing consumption patterns more emphasis is placed on horticulture and fishing.

Technological Assessment

Technological innovation and development must be seen in the light of furthering the social and environmental aims of the philosophy. There is a need therefore to assess new technology according to the criteria listed in figure 6.6.

Figure 6.6 Principles of Technology Assessment¹¹

- Technology should eliminate tedious and heavy work and increase productivity.
- It must not simply replace people in the interests of productivity but enhance possibilities for creative work.
- It should make small-scale activity efficient.
- It must be low in energy demand.
- It should help utilise indigenous, renewable resources, and make recycling of wastes efficient and profitable.

Microprocessor and computer technologies meet these criteria. They can assist in the development of new products which make low demands on finite resources. By bringing information to all communities they can enrich leisure and education. They can make possible the goal of national self-sufficiency.

IMAGES OF ECONOMIC AND SOCIAL LIFE: Speculating about life 30 years from now.

The Economy in 2010

Although self-reliance is the goal for individual communities they differ in their economic orientation. There are university towns, industrial centres, and numerous rural and fishing villages. Wellington remains the centre of national government. Individuality and creativity find an outlet in crafts and cottage industry. Many opt for this form of private enterprise as a way of life. Most of the basic necessities are produced in this way—ceramics, leather goods, furniture, and clothing. New Zealanders have always prided themselves on their do-it-yourself abilities. This tradition is the basis for the development of an "informal economy" providing services such as mechanical repairs, home maintenance, and child care. A free market exists in a setting where there is relative equality between buyers and sellers. In a small-scale environment an informal pricing system can promote direct bargaining between participants in the market, reflecting true costs and values.

At the individual and community level more self-sufficiency and less specialisation in occupations encourage greater understanding of the general problems faced by all consumers and producers. Households can take responsibility for their own waste disposal. Consumer unions monitor standards of durability and utility of all manufactured goods. Old-style differences of interest between managers, owners, and workers disappear when workers participate in management. Craft guilds provide technical education, monitor standards in production and replace traditional unions. Mass production of some items (e.g., underwear and bicycles) remains the most efficient form of production and provides a wage income for some.

More emphasis is placed on horticulture, for example nuts and grains, rather than pastoral production. Natural methods are encouraged. Labour intensive small-scale operations in high value products are encouraged by community finance. Wood-based construction industries flourish. Regional self-sufficiency ensures a balance in economic development.

But if the "free market" prospers, the motivation to "personally own" disappears. For many neighbourhood groups co-operative rather than personal ownership of consumer items such as laundry facilities is desirable. Better quality is possible when private ownership is no longer essential for personal status¹². By these means, demand for high energy products and production is discouraged. This is aided by the provision of efficient public transport, since private transport is taxed to subsidise public transport services.



With the drift back to the land and the adoption wherever appropriate of labour utilising technologies, both work and leisure become a reality for all. A reduced working week is possible for those in "conventional" employment which helps spread work around. Many small holdings and often individual homes provide much of their energy requirements by using water, wind, sun, and recycling wastes. In line with the commitment to the environment, the acreage in native forests is increased. Wilderness areas are both protected and extended.

People's Lives in 2010¹³

A society based on this Context will be distinguished by the way people relate to each other. There is much experimentation and great variety. People feel free to express themselves emotionally and physically given the extent of sharing that is basic to their life experiences. There is a mixture of scale from nuclear families to large co-operative communities. Extended families are the preferred living group. Children may be reared by a number of adults. Exposing children to many different living styles is seen as desirable. Children play an active role in the production of basic necessities. A great deal of practical learning takes place in this fashion. Young people travel as part of their early education. Groups of like-minded individuals gather together because they find camaraderie in common skills, lifestyles, or other types of activity e.g., journalists, potters. Such groups may live in large "flats", communal situations, or as linked "pockets" scattered around the countryside. Most people identify with their local geographical area.

Many productive enterprises are based on one or other of these living groups. A forestry operation may, for example, be owned and run either by an extended family who have long-standing ties with the land, or by a co-operative community of people without many kinship or geographical ties who love trees and/or want to live among them. Such a world ensures that people find the personal happiness and support which enables them to participate fully in society. Group living and working provides the base for sharing of responsibilities and profits in enterprises.

The preference for durable, high quality goods and services means changes in consumption. People supply most of their own foodstuffs, clothes, and other basic necessities locally. They do not need to purchase or barter for much in the marketplace. A high value is placed on hand-crafted commodities.

Standards of living are varied and basically comfortable. Housing and clothing are made from natural materials (wood and stone, wool, and linen) and reflect the types of technology preferred. Information flows are best assisted by compact home computers with phone networks linked to them¹⁴. Appropriate

technology of this type, given group ownership and use, plays a major role in maintaining the fabric of society. People assess the use of such technology on the basis that too many labour-saving devices could lead them away from their understanding of the environment and their fellows. A marked preference for low energy transport is a result of self-reliance and domestic access to information. Personal transport is centred on the bicycle, with group ownership of powered vehicles for medium length journeys and long distance travel by electro-magneto rail links. Personal, group, and local community energy needs are satisfied by small-scale production (e.g., solar cells, windmills, heat pumps, ethanol stills). Large urban areas need additional supplies from national grid hydro-electricity which is organised as a main trunk (inter-urban) system.

A feature of urban development is the linking of workplace and home. This results in an even spread of people throughout urban areas and a number of small community governments¹⁵. Urban areas become the foci for the surrounding countryside. "Rural" areas maintain a high level of population, perhaps 30–40 percent of the national total. Many rural dwellers live on "urban fringes" to maintain close contact with pastimes and cultural activities in the cities.

FEASIBILITY OF ECONOMIC DEVELOPMENT STRATEGY: Testing economic performance using computer projections.

The main features of Context D's economic strategy are shown in figure 6.7. As far as possible these have been translated into inputs for the EMILY version of the Victoria Planning Model described in Appendix B.

Figure 6.7 Context D's Economic Strategy

- New Zealand becomes self-sufficient as far as possible.
- · Sustainable resource use.
- · Major reduction in use of transport fuels.
- Value of exports greater than value of imports.
- Government expenditure becomes a smaller proportion of GDP.
- · Labour intensive production.

Figure 6.8 gives the model's view of how some important economic indicators develop between its base year 1976–77 and 2010. It assumes that maximum consumption is the economic goal to be achieved. The variations in results arise from testing the feasibility of the strategy in a variety of circumstances. The first two model runs indicate a low rate of economic growth, about 1 percent, over the period 1976–77 to 2010. They also indicate that (in formal terms) about one-tenth of the skilled work force and about half of the unskilled work force would be unemployed¹⁶. Higher government consumption of goods and services improves the employment situation for the unskilled but not for the skilled. Changes in terms of trade are not relevant as this is not a trading economy.

A different picture emerges from the third model run in which the totally different consumption pattern of people in this Context is used. There is a marked increase in economic activity (about 2 percent growth) accompanied by a similar increase in consumption. The high figures for conventional unemployment decrease markedly to about 100 000 unskilled workers in this new style economy. It should be remembered that the philosophy of Context D would lead to a large informal economy not readily amendable to measurement using the EMILY model. Nevertheless, it appears that a reasonably self-sufficient New Zealand could have an active growing economy without emphasis on trade if people wanted to (or had to) change their lifestyle.

Figure 6.8 Context D Emily Results

MEASURE	RUN	THOUSANDS OF MILLIONS (1976/77 DOLLARS)	
	1976/77		
TOTAL	2010 · if 1976/77 terms of trade continue		
CONSUMPTION	2010 - with higher government consumption	,	
	2010 - with private consumption changed		
	1976/77		
TOTAL	2010 - if 1976/77 terms of trade continue		
IMPORTS	2010 - with higher government consumption	n	
	2010 - with private consumption changed		
	1976/77		
τοται	2010 - if 1976/77 terms of trade continue		
EXPORTS	2010 - with higher government consumption	n	
	2010 - with private consumption changed		
	1976/77		
GROSS DOMESTIC PRODUCT	2010 - if 1976/77 terms of trade continue		_
	2010 - with higher government consumption		
	2010 - with private consumption changed		
urce: B. Philpott, Ur	published Results,	5' 10' 15' 20' 25' 30' 35'	40

Project on Economic Planning,

Victoria University, April 1981.

CONTEXT D-SUMMARY TABLE

BASIC PHILOSOPHY	 People limit personal ambition to achieve the common goals of society. Low energy consumption is linked with low consumption of goods.
INTERPRETING THE PHILOSOPHY	 A small supportive community group provides the best social environment. Technologies used should have little impact on nature. Craftsmanship and durability are highly regarded. Government should reflect the structure of society not shape it.
 VALUES AND Personal relationships are highly valued; government is locally based a PolLICIES Pace of life is slow; New Zealand has the resources to be self-sufficient; little need for trade. Pollution and resource depletion are minimised in New Zealand, carefully monitored overseas. 	
OUTCOMES (SPECULATIVE)	 A dispersed society. Co-operative communities are basic living units. Communities are as self-sufficient as possible. Distinction between work and leisure is blurred. New communications networks are used to maintain national identity. Agricultural products are exported as required.

CHAPTER 7-TOWARDS UNDERSTANDING OUR VALUES

The Contexts for Development capture four of many contrasting sets of values. Each Context has roots in our past, has support among today's New Zealanders¹ and features in the debate of people who study the future professionally. Most importantly, the Contexts have been devised to help individuals clarify their values and make their own choices for the future.

The Contexts allow us to test a number of things. They allow us to decide whether our own goals match those of any of the Contexts; whether we like the policies, lifestyles, or economies pictured in the Contexts; whether there are any implications left unexplored; whether we need to change our own goals in order to achieve the kind of New Zealand we want to see. Once we understand the implications of our own aspirations, we can go on to explore the differences and agreements which exist generally in New Zealand.

To help in this clarification exercise, this chapter compares the Contexts on a number of issues. It tries to demonstrate how they can be used. The best way of comparing the Contexts is to state how people inside each could tackle any issue. People inside each Context have different priorities. In Context A, for example, people place greater emphasis on owning material possessions than people in Context D. In Context B, radical changes in education are a priority while adaptation of the present education system is sought in Context C. A selection of issues must be made. The set of Contexts can be examined in terms of how they would meet a set of national priorities; how they would meet future challenges or how they would meet the goals of important social movements. The rest of this chapter compares the Contexts in four ways. These comparisons are in terms of:

- A set of national priorities which have emerged from CFF surveys since 1978.
- Five major future issues highlighted by the CFF in the three previous booklets in this *New Zealand in the Future World* series.
- · The goals of women taking part in a CFF workshop.
- The goals of *some* members of the Maori community.

In each case, the position of each context is presented from the point of view of people holding the values of the context.

1. NATIONAL PRIORITIES

Since 1978, the CFF has conducted a number of investigations into the goals and aspirations of New Zealanders². From these have emerged a number of national priorities. These were mentioned time and time again by respondents, and are used in this section as criteria for comparing the contexts. They are:

- Less central government involvement in the lives of people.
- More co-operation and less competition.
- Sustainable use of natural resources.
- Adequate food, shelter, clothing, health care, and education for all.
- Achieving a better quality of life: material, social, and environmental.
- Creating an identity as a Pacific nation.

They are not in priority order. The position taken in each context towards these priorities is summarised in Figure 7.1.

Figure :	7.1	National	Priorities
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	А	В	С	D
Moving towards less Government control	Yes. A primary goal	Yes. But with limits	No. But some decentralisation of functions	Yes. Communities control themselves.
More co-operation less competition	No. People co-operate only in their own interests	No. People co-operate only on a few key issues	Yes. Through institutions to achieve equality	Yes. People co-operate on most things.
Sustainable use of resources	No	Yes	No	Yes.
Provision of basic needs	Through work. Survival level of government support for the unemployed	Through work and government income support	Through government guaranteed paid work and services	A group/community responsibility.
Better quality of life	Material standard of living emphasised	Material and environmental standard of living emphasised	Social standard of living emphasised	Social and environmental quality of living emphasised.
NZ the Pacific Nation	No	Possible	Possible	Yes.

2. SOME FUTURE ISSUES

The first three booklets in the New Zealand in the Future World series raised a number of issues as being of major importance to the future of New Zealand³. These issues are outlined in the following five sections. The positions taken in each context towards the points mentioned are summarised in Figures 7.21 to 7.25.

1. Land Use Patterns

This issue concerns the need to achieve a balance between:

- · Conservation and production.
- Meeting energy needs by increasing energy supply or by restricting energy consumption.
- Continued urban development or rural repopulation.
 Seeing New Zealand's economic advantage in large extractive industries or in smaller land-based industries.

Figure 7.21	Land	Use	Patterns
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	Α	В	C	D	
Conservation	Not necessary. The market place decides whether land is used for production or not	Necessary. Government sets standards	Not necessary. Government decides whether land is needed for production or not	Necessary. The balance in the ecosystem must be maintained by changing lifestyle.	
Meeting energy needs	Leeting energy needs Leeting energy needs Increased consumption is accepted. Demand will be met by cheapest resources around. Hydro, gas, coal, like tree preferred		Increased consumption is accepted. Demands will be met by using cheapest New Zealand resources like gas, coal, hydro	Increased consumption is not desired. Demands met by using renewable resources only. Hydro, trees, crops, sun, wind, preferred.	
Urban development	Industrialisation could lead to greater urban concentration	Rural repopulation could occur with better services	Policies will lead to repopulation of rural areas	Values lead to a repopulation of the countryside.	
View of economic advantage	Large scale, capital intensive extractive industry	A mix of industries	Agriculture	Self-sufficient. Small-scale.	

2. New Technologies

The CFF has assumed in its work that New Zealand cannot turn its back on emerging technologies. The questions raised relate to the use of these technologies.

- Who should control information technologies?
- Should technologies be introduced as an economic tool to increase productivity or should they be introduced to achieve social objectives?

Figure	7.22	New	Techn	ologies

	А	В	С	D	
Economic or social tool	Primarily economic. New technologies increase productivity	Both economic and social. New technologies create new knowledge industries while improving democratic processes and education	Both economic and social. New technologies aid democratic processes and leisure activities as well as agricultural production	Both economic and social. Appropriate technologies satisfy both goals at once.	
Control of information technology	Privately owned and controlled	Privately owned but control of channels by government	Government owned and controlled	Community owned but control of channels by government.	

3. The Question of Scale

This issue is the problem of how to fashion social and economic structures which are intimate yet efficient, diverse yet unifying. Special emphasis can be placed on:

- Decentralising bureaucracies.
- Minority groups being able to "do their own thing".

	А	В	С	D
Decentralisation of bureaucracies	No	No	Some	Yes.
Minority groups	Economically successful groups prosper	Diverse groups readily accepted	Socially acceptable groups prosper	Self-reliance of communities guarantees the possibility of group development.

Figure 7.23 The Question of Scale

4. Meeting Human Needs

The booklets recognise many human needs. In summary, they can be described as survival and safety needs; social needs; and self-development needs. The following are thought to be of great importance:

- The existence of a safety net to help people who cannot meet their own survival and safety needs.
- An education which prepares people for the future: whatever shape that may take.
- Employment.

	А	В	C	D	
Safety net	Yes. A subsistence unemployment benefit	Yes. Incomes support for those below a stated minimum	Yes. All necessities are guaranteed	Yes. The community looks after its own.	
Anticipatory education	Yes. Economic and technical education very innovative for the able. Values are caught	Yes. Varied educational institutions and practices. Problem solving, self reliance, ecology, technology emphasised. Values are both caught and taught	Some. Multi-chance education, free and government-run. New Zealand-made electronic teaching programmes preferred. Values are taught	Yes. Theory and practise Closely linked. Mastery of a wide range of skills emphasised. Values are both caught and taught.	
Employment	Skilled people in demand. Unemployment among unskilled	Skilled people in demand. Flexible work patterns common	Work redefined and shared. All employed for fixed number of hours per week	Work and leisure merge. Formal paid employment unusual.	

Figure 7.24 Meeting Human Needs

5. Involvement with the World

This issue relates to how New Zealand can best achieve economic, military, and national security:

- Whether full involvement in one world economy will bring the best chance of economic security.
- Whether alliances or a more independent foreign policy will bring the best chance of military security.

Figure 7.25 Involvement with the World

	А	В	C	D	
NZ involvement in world economy	Total	Partial A trading nation in selected areas	Partial A trading nation but tries to avoid foreign investment as far as possible.	Very little. NZ aims to be self-sufficient.	
NZ involvement in military alliances	Alliances welcomed as an insurance against possible disruption of trade	Alliances or non-alignment possible	Non-alignment or neutrality possible	Passive neutrality	

3. WOMEN AND THE FOUR CONTEXTS

In 1980 the CFF held a workshop to explore the future position of women in New Zealand⁴. The workshop considered the place of women in society 30 years from now, the ways in which the needs of children could be met in different circumstances, and the changes which would be necessary to achieve desired goals. This section tests how far three general goals for women, articulated at the workshop, could be achieved in each of the contexts. These are:

- Equality of choice and opportunity in all fields of human endeavour.
- Greater involvement in politics and policy making at all levels.
- Attitude changes in men and structural changes in society so that these goals can be achieved without compromising women's true capabilities. Figure 7.3 summarises the position taken in each context towards these aims.

	Figure	7.3	Some	W	omen	's	As	pirat	ions
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	А	В	C	D	
Equality of choice and opportunities	Possible	Yes	Yes	Yes.	
Greater involvement in decision making	Possible	Possible. Increased participation a goal	Yes, due to government reform	Yes.	
Changes to meet the needs of women	Unlikely	Possible	Possible	Yes.	

4. MAORI RIGHTS AND THE FOUR CONTEXTS

Chapter 1 spotlighted the emergence of several social movements which want to bring change to New Zealand. Groups which aspire to greater rights for Maoris were cited as examples. In a value clarification exercise like this, the Contexts should be examined to find out whether they can accommodate the aspirations of such groups.

It would be a mistake, however, to suggest that the Maori community shares one, unified set of goals. It is diverse; its goals incapable of being easily summarised. One way of capturing something of its goals, is to assess how the aspirations of one member of the community would be viewed by people in each of the four Contexts. In He Ara ki te Aomarama: A Pathway to the Future⁵, Sidney Mead describes the following goals for the advancement of the Maori people:

- Retain and develop Maoritanga in order to maintain a continuity with the past and provide a foundation for life in the twenty-first century.
- Establish Maori as an official language of New Zealand and use it more widely in contexts other than the marae.
- Develop a bilingual education programme where Maori is given a value equal to English and with the possibility of development from primary to tertiary levels.
- Have control over a bilingual television channel, a bilingual national radio network, and some newspapers and magazines.

- Develop a banking system, perhaps based on the office of the Maori Trustee, and obtain finance, from overseas if necessary, to help Maori individuals or groups establish business enterprises.
- Exercise a greater degree of control over decisions and enterprises which affect the lives of the Maori minority.
- Establish a modern leadership system that is based partly on achieved and partly on ascribed status and which is founded upon Herbert Spencer's dictum that "Society exists for the benefit of its members, not the members for the benefit of society!".
- Return all uneconomic shares in land to hapu ownership and re-establish the mana of the hapu.
- Increase the number of Maori parliamentary seats and change the basis of representation away from an arbitrary geographical zoning as at present to tribal groupings in which electors are registered on tribal rolls.
- Enjoy an ordered and meaningful life, to respect cultural differences among the population, to help protect the heritage of the nation and to pass it on to the next generation: and, if necessary, to play our part in defending that heritage.

Figure 7.4 summarises the position taken in each Context towards these aspirations.

	A B C dation Retained but not developed Retained and can develop Retained and can develop Retained and can develop		С	D
Retain and develop Maoritanga as a foundation for 21st century			Retained and can develop	Retained and development positively encouraged.
Maori as an official language	Not possible	Unlikely	Possible	Probable.
Maori language used more widely outside the marae	Unlikely	Probable	Likely	Definitely.
Bilingual education	Not possible	Probable, on demand	Possible in some circumstances	Probable in some circumstances.
Bilingual media (TV, newspapers, radio)	Possible if profitable	Probable Almost certain development of bilingual electronic media	Possible	Probable in some circumstances.
Develop Maori banking system	Possible	Possible	Possible	Not necessary.
Control of Maori affairs by Maoris	Not possible	Possible within limits	Possible within limits	Probable.
Maori leadership to be determined partly by achieved and partly by ascribed status	Possible	Possible	Possible	Possible.
Re-establish hapu ownership	Possible	Possible	Possible	Probable.
Increased number of Maori parliamentary seats	Unlikely Amalgamation of Maori and pakeha rolls probable	Possible Increased participation a goal	Definite	Not applicable.
Tribal representation in parliament	Unlikely	Unlikely	Possible	Possible.

Figure 7.4 Some Maori Aspirations

The four examples offered in this chapter do not exhaust the usefulness of the Contexts. Readers can see how their own personal priorities for New Zealand would fare in each Context. They can test how events they see looming in the future may be tackled, for example world recession, nuclear war, pressure to receive more refugees or immigrants. Whether farmer or city dweller, employer or employee, Maori or pakeha, young or old, readers can explore how far their own goals fit into the Contexts. They can try to assess the kinds of people to people and people to environment relationships which are part of each Context.

Some Further Questions

The main features—the constants in time—of the society described in a Context are linked logically to its philosophy as it could be applied in New Zealand. This allows useful speculations to be made about life in society at some future date if most people were in agreement with the philosophy. Thus, readers are asked to approach each Context chapter from the point of view of a person holding that particular philosophy.

In the real New Zealand, people hold a variety of beliefs. It is therefore important to try to determine to what extent each Context for Development could accommodate the real mix of New Zealanders. Could social harmony be maintained in each Context given the variety of values and aspirations of real New Zealanders? What are the trade-offs involved if a Context is adapted in response to the demands of a group holding a different philosophy? For example, government job creation schemes to provide full employment could reduce opportunities for economic growth that is based on free enterprise and New Zealand's natural resources as in Context A. People unwilling to limit personal ambition for the good of society could make some Context D communities and central government become more authoritarian in order to sustain the philosophy in some form.

In short, the Contexts are a sorting device which can help people choose social, economic and environmental options for the future which are compatible with each other, compatible with their own goals and have some chance of developing from the values and aspirations of today's New Zealanders. Having clarified the issues to their own satisfaction, they can then take appropriate action in their own lives, in their communities and at the ballot box.



APPENDIX A

NEW ZEALAND'S RESOURCES

Whatever path New Zealanders decide to follow in the future they will have to take account of certain realities: for example, population trends, energy resources, and the nature of our culture. The first three booklets in this series, *New Zealand in the Future World*, provide a comprehensive survey of the country's resources and describe some options for their use¹. In this appendix those resources which seem to form the boundaries of all development paths are described.

HUMAN RESOURCES

While it is important to know what the country's present human resources are it is also vital to know whether they are increasing, decreasing or stable at this time.

Population Trends

Population growth is dependent on the rate of natural increase (i.e. the excess of births over deaths) and the rate of net migration. The population of New Zealand as at September 1980 was 3.1 million. Various projections of the future population have been made². Depending on assumptions about fertility rates and net migration it seems likely that in the year 2010 New Zealand's population will lie somewhere between 3.0 million and 4.5 million. The latest (April 1981) Department of Statistics population projections for 2011 range between 3.4 and 4.0 million³.

A study has suggested that New Zealand has the carrying capacity to support this range of population comfortably⁴. Compared with other parts of the world this population will have plenty of space. It has been calculated that in the year 2011AD southern Asia may be crowded by more than 1200 people for every square kilometre of cultivated land⁵ while New Zealand may have less than 30⁶.

The structure of the population is changing. Declining fertility rates are contributing to the ageing of the population. Because of a decrease in the number of people under 15 the number of dependents per worker, as presently defined, will decline. For example, the average number of dependents per worker may halve from 1.47 to around 0.74 between now and 2006⁷.

Work Force

Significant changes are occurring in the work force. Employment patterns are changing as shown in Chapter 1, Figure 1.1. A projection of the expected labour force indicates that the demand for participation in formal employment will grow by about 1.5 percent per annum⁸.

There has been a rapid and continual increase in the participation of women in the work force since 1936. This has continued through periods of high and low fertility and periods of high and low economic growth. Statistics Department projections assume that the participation rate for women will reach its maximum level in 1986 and then remain constant. Their highest participation rate from that time on is 65 percent for women aged 20–24 years. Other researchers have suggested higher participation rates, which would result in a larger potential work force⁹.

A number of studies have indicated that there may not be enough jobs for the potential work force in the future. Figure A1.1 below illustrates the possible shortfall of jobs assuming the present level of demand for goods and services remains constant. Projections of the available work force a and b differ significantly from estimates c to f of the work force required¹⁰.

Figure A1.1—Available Work Force (Demand for Employment), and Required Work Force as Percentages of Total Population





These work force projections suggest that while over 50 percent of the population may want to join the formal work force in 2011AD, 28 percent of the population may be able to provide all the goods and services needed.

Population Distribution

New Zealand's population distribution is changing. The post-war years have been a period of rural depopulation, with a drift to the north, and widespread urbanisation, particularly around Auckland. As at March 1977 the cities and boroughs housed 73 percent of the population, and occupied about 1.4 percent of the total area of the country.

New Zealanders move about a lot. An indication of the overall mobility is the fact that 4 people in 10 shifted their home at least once in the 5 years before 1975, many of these leaving for better jobs overseas¹¹.

Education

By international standards New Zealand has a well-educated population. There is almost 100 percent literacy. UNESCO statistics for 1976 show that out of 40 countries New Zealand had the fourth highest number of tertiary students per 100 000 inhabitants. In 1978, 32 percent of the population was enrolled at educational institutions¹².

The International Association for the Evaluation of Educational Achievements conducted a study of education including reading tests in 15 countries between 1970 and 1972. A sample of 14 year-olds in full-time schooling undertook these reading tests. The national averages were obtained and New Zealand ranked highest for reading comprehension, ninth for reading speed, and eighth equal for word knowledge¹³.

New Zealand, like most other OECD countries, is experiencing a trend towards greater diversification of studies and of the student population, with the enrolments for part-time studies growing rapidly¹⁴.

NATURAL RESOURCES

New Zealand is well-endowed with some natural resources. The way it uses these resources will be an important factor in determining its future.

Figure A1.2—N	Vew .	Zealand's	Indigenous	Energy	Resources
9			0	a	

Indigenous Energy Resources

Although modest by world standards, New Zealand's primary energy resources are abundant when compared on a *per capita* basis. Figure A1.2 lists indigenous energy resources, current rates of use, and the estimated potential resource size. Figure A1.3 compares indigenous with imported primary energy consumption.

Figure A1.3—New Zealand Current Primary Energy Consumption by Type

Indigenous			0/0
Gas		64 PJ	16.6
Condensate		30 PJ	7.8
Coal	•••	54 PJ	14.0
Electricity	••• `	63 PJ	16.4
Imported			
Imported Oil		174 PJ	45.2
Total		385 PJ	100

Source: G. F. Preddey, CFF, Wellington 1981.

One petajoule (PJ) will provide the annual domestic energy demand for 27 000 dwellings—a city the size of Hamilton or Lower Hutt.

Agriculture

Productive agriculture currently takes place on around 14 million hectares of the country's total land area of 26.9 million hectares, some 52 percent of the total. Pastoral farming predominates because New Zealand is a hilly country—60 percent of the land has a slope greater than 18°. Figure A1.4 below provides a detailed breakdown of land use in New Zealand.

Resource	Nature	Current Use	Estimated Potential
Maui, Kapuni gas	 non-renewable	64 PJ/yr	5 916 PJ
Maui, Kapuni condensate	 non-renewable	30 PJ/yr	549 PJ
Sub-bituminous coal (steaming)	 non-renewable	54 PJ/yr	13 500 PJ
Lignite coal (low grade)	 non-renewable		28 500 PJ
Hydro electricity	 renewable	59 PJ/yr	209 PJ
Geothermal	 renewable	4 PJ/yr (electricity)	54 PJ/yr (electricity) 416 PJ/yr (heat)
Direct solar	 renewable		6 PJ (i.e., 50% of domestic hot water)
Wood	 renewable		64 PJ (1980), 140 PJ (2000) (wood to methanol)
Wind	 renewable		? large—equal to hydro electricity?
Wave, tidal	 renewable	· · ·	? large

Source: G. F. Preddey, CFF, Wellington 1981.



Source: Land Alone Endures, Department of Scientific and Industrial Research, 1980.

New Zealand's favourable temperate climate, with high sunshine hours and abundant rain spread fairly evenly throughout the year, allows less energy-intensive forms of agriculture than practised in other developed countries.

Agriculture is the mainstay of the New Zealand economy. The productive capacity of the land has been built up and is maintained by the application of phosphatic fertiliser and by careful grazing management. Some of this land could be used for trees or crops for liquid fuel production. Horticulture is expanding rapidly. Although 10 percent of New Zealand's land is suitable for horticulture, only one-sixth of this is at present used intensively¹⁵.

Forestry and Fishing

Native forests represent over 90 percent of the total forest area. Timber production is primarily from the exotic forests. Trees can be grown for sawn timber production, pulpwood, to produce energy, and for a variety of other uses. The large exotic forestry planting programme of the past 20 years, combined with the unusually fast tree growth that occurs in New Zealand, means that there will be a huge increase in wood supplies from about 1990. The projected increase in supplies is shown in Figure A1.5.





Source: New Zealand Forest Service 1981.

New Zealand has one of the largest Exclusive Economic Zones in the world. Although the productivity of the zone is not high by international standards it still contains a substantial fisheries resource. The total amount of fish harvested from the zone in 1979 was around 275 000 tonnes. The New Zealand domestic fleet caught approximately 33 percent of the total. Current estimates of the maximum sustainable yield of commercially attractive fin fish, squid and shell-fish are between 415 000 and 620 000 tonnes annually.

OTHER RESOURCES: CULTURE, INSTITUTIONS

New Zealanders do not have one strong unifying tradition. They have come from diverse backgrounds with influences from liberal, Christian, socialist, Maori, and other traditions. Recently, some New Zealanders have been searching for independent, "alternative" lifestyles. There are, therefore, few cultural barriers to change. Indeed, a 1968 study found that in comparison with people in 50 other countries, New Zealanders were the most advanced in adapting to change¹⁶.

New Zealand's political system has at times responded energetically to the challenges it has faced. For example, in two periods, the 1890s and the 1930s, the State has led change, making New Zealand into a social laboratory. The State has also presided over periods of social conservatism in the 1920s and 1960s. Most organisations in New Zealand have tended to become increasingly centralised and are organised on an hierarchical basis. Examples are the bureaucracy, business, transport, and leisure organisations. People are ambivalent towards these centralised institutions, particularly the bureaucracy¹⁷. In some circumstances they wish to see the State's role reduced, while in other circumstances they are prepared to give the State a larger role hoping that it can solve various problems.

New Zealand has an established comprehensive communications network including the Post Office services, radio, television; and other media. In 1976, 94 percent of households had television and 90 percent had a telephone. Using existing communications networks it is now possible to have immediate access to the knowledge in data banks in other parts of the world. At present most of the means of communication are owned and controlled by the public through the State.

New Zealand spends about \$150 million per year on research and development (about 0.9 percent of Gross National Product). Approximately 1 percent of this is spent by private non-profit agencies, almost 20 percent by business enterprises, and about 80 percent by government agencies. Of this 80 percent the greater proportion is spent by government departments, the rest by universities. Just under half of this departmental expenditure goes on primary production research, about 20 percent on the natural environment and about 15 percent on manufacturing and processing.

Regardless of how New Zealanders pursue their future development, available resources will set limits to what can be achieved.

APPENDIX B

MODELLING OF CONTEXT ECONOMIES

For each context an economy has been described which is consistent with its philosophy. These have been quantified and examined using the EMILY version of the Victoria Planning Model adapted to project ahead to the year 2010¹.

This model was set to maximise consumption given the constraints which are the facts of life for the New Zealand economy. These include:

- (i) The growth of the labour force;
- (ii) The rate at which non-renewable natural
 - resources are used up;
- (iii) The rate of increase in the capital stock which itself depends on the level of investment each year and that in turn depends on the disposition of expenditure between private and public consumption on the one hand and investment from saving on the other;
- (iv) The rate of growth of new technology, usually described as technical progress;
- (v) The rate of growth of exports;
- (vi) Changes in the terms of trade and the growth in imports which are thereby provided;
- (vii) The level of overseas deficit and therefore overseas borrowing which is thought desirable and feasible in terms of its future financing.

By specifying growth rates for each of these variables and the quantitative relationships between them, it is possible to calculate growth in GDP and consumption which could emerge over the decades ahead.

The 2010 Economic Structure

The picture of the economy which emerges for the year 2010, or round about that time, depends on the resources then available, on how they are used, and on the particular context which applies.

The resources available depend in some cases and to some extent on outside events and, in other cases, on the growth pattern over the next three decades.

Thus, the labour force in 2010 is regarded as being determined by non-economic considerations. The terms of trade, expecially insofar as these reflect changes in oil prices, are largely determined by factors external to New Zealand.

But the level of national resources available depends very much on the rate of exploitation which has occurred over the previous three decades and on the rate of exploitation regarded as permissible in 2010. And the stock of capital in 2010 will depend on the rate of growth of investment over the preceding 30 years. So, too, will the level of factor payments abroad depend on the amount of overseas borrowing which has been conducted over the period.

Technology in 2010 will depend on new techniques developed here and abroad and on the extent to which it is thought useful and desirable for these to be adopted.

Whatever the casual factors at work, the level of resources available in 2010 will determine the picture of the economy, the potential level of GDP and its disposition in various ways. These in turn will depend largely on which of the Contexts is preferred.

- Thus, each Context implies strategic choices between:
 - (i) Private and public consumption;
 - (ii) Consumption and investment;
- (iii) High exports and imports and low exports plus import substitution;
- (iv) High or low overseas borrowing;
- (v) Greater or lesser use of non-renewable natural resources;
- (vi) Full use of available labour or toleration of substantial unemployment;
- (vii) Greater or lesser uptake of new technology.

Multisectoral Choices in 2010

In addition to the above choices, there are a number of others implicit in the Contexts which follow from the fact that the economy is not a single sector but is made up of a large number of sectors, each selling goods and services to each other and each making different products with different input requirements and different contributions to exports. Hence it is not only a question, for example, of the level of exports and/or imports but also of the particular and appropriate sectoral mix of exports, e.g., more or less agricultural products or manufacturing or whatever. Similarly, there are choices as to where investment ought to occur, what kinds of goods would enter into consumption, what type of labour/capital mix should be adopted in each sector, and so on.

A range of choices such as these is made available to the model and then, via the linear programming routine which it uses, it selects that particular pattern of choices which yields the highest level of consumption in 2010. In each Context, this range of choices has been narrowed to reflect the special flavour and characteristics of that Context.

The general choices available to the model depend, of course, on the assumption that present economic

relationships such as those between consumption and income or capital versus labour substitution remain mathematically unchanged. This may not be appropriate for a 30-year interval.

Lastly, to take account of environmental influences, allowance needs to be made for the fact that effects on the environment differ vastly as between different sectors and different sectoral structures of the economy.

For each Context the model was used to simulate the overall state of the economy in 2010 if all the above external conditions remained unchanged. It was also used to simulate the effects of worsening terms of trade and of a major rise in oil prices. The results, which are discussed in the Context chapters, can be regarded as useful first approximations which can be improved upon as the model is developed and refined in the future. The *direction and rate of change* of the major variables such as consumption, GDP, and employment, should be seen as more important than the *absolute values* the model has produced.

Above all, the economies should not be compared in isolation from their accompanying institutional and social arrangements. Economic modelling as it is used here provides a set of indicators to help organise one's thinking about the future. It is an analytical instrument, not a crystal ball.



A Ready Reference to Terms Used in this Booklet

Alternative futures-Different images of what the world could be like. Analytical tool-A method or way of separating and ordering ideas in order to examine and clarify them.

Anticipatory thinking-A way of thinking which enables people to cope with and influence future changes, whatever they might be.

Appropriate technologies-Technologies which support a culture and allow its economic and social goals to be achieved.

Basic needs-Requirements, essential for human life, e.g., food, shelter, clothing.

- Biomass-Material derived from plants, trees, or animal waste from
- which fuels can be produced. Biosphere—The "mantle" of soil, water, and air which supports life on earth.
- Cloning-The process of reproducing identical plants or animals from a single cell of a parent.

Common Good-General welfare.

- Computer terminals-Devices which may store, process, display, and communicate information transported to and from them.
- Conserver society—A society which deliberately restricts natural resource use in order to achieve social and environmental goals.
- Consumer society-A society based on an economic system which maximises production and consumption of goods by, e.g., built in obsolescence and advertising.

Context for development-The important features of a society which could persist into the future if a particular set of values was widely held.

- Ecology-An area of study concerned with the patterns of relationships between organisms and their environment.
- Economic indicators-Statistical measures of economic performance.
- Electronic mail-Documents or letters transmitted via telephone lines, cables or electromagnetic waves (radio, TV, light) e.g., within countries and between countries.
- Ethic-Principles or rules of right conduct according to which people's actions are judged.
- Extractive industries-Industries which mine or harvest natural resources.
- Free enterprise-Economic activity which occurs with a minimum of government control.

Futurist-A person who researches and discusses the future of society, its trends, possible eventualities, and various options available.

Genetic engineering-The practice of manipulating genes to change the characteristics of plants, animals, and possibly human beings.

- Information society-A society in which over 50 percent of GNP is produced by the processing, storing, transferring, and marketing of information, probably but not necessarily by high technology media. These media include both computer and telecommunications devices.
- Interdependence-A term which describes the complex relationships between human beings and their environment. The world is made up of many natural and social systems. Change in any one affects all others.

Microprocessor-A very small computer.

- Participatory democracy-System of government in which the decision making is shared through wide consultation with the public.
- Post-industrial society-While industrial society is based on machine technology, post-industrial society is shaped by an intellectual technology. Its main elements are a new system of knowledge and technical innovation, and the use of computers.
- Private enterprise-Economic activity which is largely in the hands of small business.

Reactive thinking-A way of thinking which is based on the assumption that the future will be like the past.

Resources-Renewable-continually regenerated naturally e.g., forest, fish, grass, solar, wind, and wave energy

- Non-renewable-resources which are limited. Once used they cannot be replaced e.g., coal, oil, minerals.
- Self development need-The need of each individual to develop his/her own potential to the full.

Self-reliant-Reliance upon one's self, one's own abilities.

Self-sufficient-Ability to supply one's needs one's self.

- Space-ship-earth-The view of the earth as a life support system which has finite resources and a limited capacity to adapt.
- Steady-State Economy-An ecomony which maintains a constant stock of people and goods at some desired level.
- Stewardship-The idea that man has a responsibility towards the natural world, and has a duty to protect and preserve its resources for future generations.
- Sustainable Resource use-A level of resource use which can be maintained for the forseeable future.
- Turbulence-A state of complexity which requires new methods of understanding and new methods for predicting behaviour. Values-Ideals and goals which are highly regarded.
- World View-Set of assumptions and beliefs which provide a framework which people use to interpret the world around them.

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world has undermined New Zealand's economic position. Social harmony has been disrupted by new social divisions. To make progress in the future New Zealanders will need to learn to use their resources in new ways and develop new approaches to security and social harmony. This booklet presents four development philosophies as a set of contexts for thinking about New Zealand's future. Each philosophy leads to a different way of life. The major features of these contexts for development are explored to help readers clarify their own beliefs and make their own choices for the future