

A Review of Economic Reforms in Bangladesh and New Zealand, and their Impact on Agriculture

Jahangir Alam

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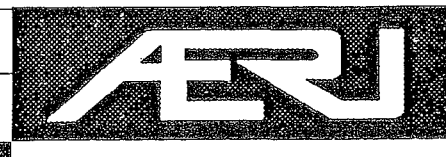
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Abbreviations

ARIs	Agricultural Research Institutes
ARP	Agricultural Research Project
ASSP	Agricultural Support Service Project
ATC	Agricultural Technical Committee
BARC	Bangladesh Agricultural Research Council
BRAC	Bangladesh Rural Advancement Committee
CBN	Cost of Basic Needs
CEO	Chief Executive Officer
CPI	Consumer Price Index
CRIs	Crown Research Institutes
CSE	Chittagong Stock Exchange
DCI	Direct Calorie Intake
DEPC	District Extension Programme Committee
DSE	Dhaka Stock Exchange
DTC	District Technical Committee
DTWs	Deep Tube Wells
FRST	Foundation for Research, Science and Technology
GATT	General Agreement on Tariff and Trade
GST	Goods and Services Tax
MAF	Ministry of Agriculture and Forestry, formerly the Ministry of Agriculture and Fisheries
MOA	Ministry of Agriculture
MORST	Ministry of Research, Science and Technology
NARS	National Agricultural Research System
NGO	Non Governmental Organization
PGSF	Public Good Science Fund
RDRS	Rangpur - Dinajpur Rural Service
RTCC	Regional Technical Coordination Committee
TPDE	Total Public Development Expenditure
TSP	Triple Super Phosphate
VAT	Value Added Tax

Preface

Dr Jahangir Alam Khan is the Chief Scientific Officer and Head of the Economics and Marketing Research Division of the Bangladesh Livestock Research Institute. In 1997 he was awarded a Post-Doctoral Scholarship for one year under the Agricultural Research Management Project sponsored by the World Bank (IDA 2815-BD). The Bangladesh Agricultural Research Council arranged Dr Khan's placement at Lincoln University (where he had completed his Doctoral studies in 1983) where he conducted his Post-Doctoral research on New Zealand's economic reforms in the light of important reforms in the agricultural policy of Bangladesh. This report presents the results of Dr Khan's research. Dr Khan notes in his study that there were some very interesting similarities, but also some significant differences, in the reform experiences of Bangladesh and New Zealand. He draws policy conclusions that will be of particular importance in his own country, but which will be also interesting to anyone concerned with evaluating the success of New Zealand's agricultural reforms in the late 1980s. Both he and I record our appreciation to Professor Tony Zwart and Dr Paul Dalziel who supervised this research project throughout 1998.

Ross Cullen
DIRECTOR

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Summary

Bangladesh and New Zealand are two small countries. Agriculture is the economic base in both countries. Both undertook economic reforms in the 1980s and 1990s. The experiences with economic reforms in these two countries were mixed. Though the impact of reform on macro-economic performance was positive, it was negative on agricultural growth. In both countries, the fiscal balance improved, the current account deficit fell, overseas borrowing was reduced, the foreign exchange reserve increased and inflation rates declined after macro-economic policy reforms. However, as agricultural reform was initiated and subsidies removed, total production immediately fell and its growth rate experienced a long-term decline. The decline in growth of agriculture was accompanied by a decline in this sector's share to GDP and total export earnings. Nevertheless, the most recent growth rates in agriculture show a healthy recovery and the level of financial profitability per farm/per unit of land seems to have improved. Farmers tended to diversify their farm business, follow intensive practices and become more efficient in farming as a result of economic reforms. However, a radical economic reform may initially be associated with reduced food supply due to a decline in growth of agricultural production. This may have a short term benefit to a food exporting country, but may worsen the food security of a food importing country. Thus a radical and rapid policy reform in agriculture seems inappropriate for food deficit countries. The study indicates further that the need for intervention in the market is less for progress of the developed countries. Nevertheless, a balance between market liberalism and state activism is required for overall development of the developing countries.

CHAPTER ONE

REFORM IN RETROSPECT

1.1 Viewpoint

Every body wants freedom. Individual freedom is a pre-condition for peace and happiness of human beings. They like to have free choices to their way of life and make free choices to satisfy their needs. They require both economic and political freedom for their dignity and prosperity.

The concept of economic liberalism is complimentary to individual freedom – to one's personal liberty. It calls for a reduction of government interference in the economy. It advocates for free play of market forces to arrive at an equilibrium price that will benefit the producer and the consumer. This view of the classical economists gave rise to the myth of *laissez faire*. It is a state of condition where individuals will be free of government restraint in the pursuit of wealth.

1.2 Smithism

The importance of economic freedom and competition was realised by many people in the seventeenth and eighteenth century. However, a case for individual economic independence was formally set out first by Adam Smith in 1776 through the publication of his book *An Inquiry into the Nature and Causes of the Wealth of Nations*. In this book Smith denounced the doctrine of 'mercantilism' and advanced the idea of promoting market competition¹. His philosophy generates an expectation that the outcomes of freely operating market will maximise both individual and social benefits. A synthesis of 'Smithism' is that through abolition of government restrictions on private enterprises and promotion of the play of market forces national wealth will be increased.

When Smith forwarded his ideas of liberalism, there was considerable state control over economic aspects in Europe. Smith's philosophy might have influenced them. By the early nineteenth century, reform started in the United Kingdom and Smith's ideas had been reflected in promulgation of legislation.²

In the international field, Smith's philosophy was synthesised in the form of free international trade. Although the arguments for free trade were made by many others even before publication of *The Wealth of Nations*, people became more concerned after Smith forwarded his views on this issue. He argued that there is specialisation and division of labour among nations, the benefit of which can be derived through free international trade. Ricardo's (1819) ideas added dimensions to it and established the theory of comparative advantage in international trade. By the mid 19th century most of the European countries altered their

¹ Johnson (1971) has described the intellectual contributions of Smith as the 'Smithian Revolution' against the established body of doctrines generally described as 'mercantilism'.

² See for evidence, Cameron (1993).

protectionist views and moved towards free trade. As a result, the index of annual volume of exports significantly increased.

The world trade boom lasted for several years. Different countries experienced high economic growth with considerable increase in concentration of capital. During the 1870s and 1880s, however, there was a decline in the growth of world trade³ due to a fall in prices and decline in output. The depression⁴ continued until the late 1890s.⁵ The industrialists explained this phenomenon as the consequence of intensive international competition and demanded protection.⁶ Many countries including France, Germany and Italy returned to protection. In England, there were repeated appeals for 'fair trade' and 'tariff reform' (Coats, 1992) but the protectionists were not able to achieve any success before World War I. The period from the late 19th to early 20th century was the first phase of globalization when Britain ruled almost the entire world⁷ and pound sterling performed the role of international money.

1.3 Marxism

The classical view of market capitalism was seriously challenged by the proponents of socialism in the 19th and 20th centuries. Among others, Karl Marx contributed significantly in synthesising socialist views by publishing the 1st volume⁸ of *Das Capital* in 1867. Marx considered classical political economy as a theoretical expansion of the bourgeoisie in the period when the modern capitalist economy was growing. He looked at it from a different angle and observed the existence of exploitation and alienation in the capitalist mode of production. He focused on the mechanisms that regulate the production process, and on the generation of income and its distribution between wages and profit. He argued that the capitalist system creates a situation of over-production that leads to a lack of aggregate demand and a fall of profit. This puts the whole system into a crisis, and he thought, an end of the capitalist system itself. According to Marx, class struggle, extraction of surplus value, growth of monopoly capitalism, the proletarianisation of the petty bourgeoisie, growing misery of the masses and increasing class consciousness, all inherent in the capitalist system will ultimately lead to socialism. The proletariat after overthrowing the bourgeoisie would establish a classless society in which every one would be remunerated according to his (her) ability and at a later stage each person would receive according to his (her) needs.

The socialist economy is characterised by a planned economy where private ownership of property is transformed into social ownership, savings and investment decisions are taken centrally and regulation of the social distribution of labour is made ex ante (Brus, 1972). Workers realise market wages by collective bargaining. The individual freedom is enjoyed up to the extent that a person consciously masters and controls both nature and his social conditions of existence in line with his developed and developing needs and abilities (Howard and King, 1975). Marx argued that the potentiality of men can and actually will attain

³ The growth rate was still positive during those two decades and accelerated again in the two decades before World War I.

⁴ This was known as the 'Great Depression' in Great Britain (See for detailed discussion Saul, 1969).

⁵ After that period the prices of commodities moved upward with the discovery of gold in South Africa, Alaska, Canada and Siberia.

⁶ Others described it as the first sign of a general crisis of the capitalist system (Screpanti and Zamagni, 1993).

⁷ Hobsbawm (1987) has described this period as 'the age of empire'. Panic (1992) showed that Britain had a balance of payment surplus accounting for 5 per cent of GDP during the period from 1880 to 1913.

⁸ *Das Capital* was published in four volumes; volumes ii and iii were published posthumously after editing by Friederich Engles and volume iv was published 25 years after the death of Marx being edited by Karl Kautsky.

freedom. However, he maintained that the bourgeoisie society is at the apex of a certain type of unfreedom.

During the late nineteenth and early twentieth century Marxism, in the form of socialism and communism, has dominated the intellectual and policy debate both in developed and developing countries. This philosophy was first adopted in 1917 through the Russian revolution⁹ and spread over almost half of Europe and Asia¹⁰ after World War II. Many former colonies opted for socialist reform, establishing one party rule and following centrally planned economic systems influenced by the communists of Russia and China. Although socialism was praised for ensuring a better distribution of income, it was at the same time criticised for lack of sufficient production incentives and individual liberty. By the late 20th century all socialist countries of Europe undertook market reform to improve the performance of their economy.

1.4 Keynesian Revolution

The Russian Revolution of 1917 and the consequent adoption of Marxism in economic life led in some countries to abolition of private property and put the state into control of all economic activity. Another event, commonly known as the Keynesian revolution after the acute depression¹¹ of the 1930s, led to state activism in most of the developed and developing countries. This decade experienced a severe mass unemployment associated with industrial senescence and an overvalued exchange rate. The prevailing orthodoxy was unable to explain this phenomenon and to cope with it (Johnson, 1971). John Maynard Keynes's *General Theory of Employment, Interest and Money* (published in 1936) forwarded profound policy suggestions to overcome the problem.

Keynes observed that the mass unemployment in question was due to a deficiency in the aggregate effective demand for goods and services and was caused by excess savings. He argued that the depression could be overcome through government intervention in maintaining the level of aggregate demand by executing appropriate programmes of public investment expenditure. He advocated public works as a cure for unemployment.

Keynes's views of demand management gave birth to a philosophy of administered markets. After the late 1930s his ideas stimulated economic interventionism and created demand for economists in the Government. Eventually Keynesianism became a dominant stream of economic thought in Europe and America. However, Keynes's interventionism got into problems towards the late 1970s with increased stagnation in output and employment accompanied by high inflation in developed countries. Consequently, a wave of economic liberalism provoked reform all over the world.

⁹ Popularly known as the October revolution.

¹⁰ For an elaborate discussion, see Cameron (1993).

¹¹ Others termed it as the "great depression" (see World Bank, 1997a).

1.5 Structuralism

After World War II, many countries in Asia and Africa were decolonised.¹² The structure of these countries was significantly different from that of the developed ones. These countries were resource poor and many of their citizens were living below the poverty line. Since markets were imperfect and less efficient in allocating resources in developing countries, they required the government to intervene for building up the economy. A number of writers¹³ believe that such intervention is necessary in developing countries for creating infrastructure for development, establishing social justice in income distribution and for poverty alleviation (Colclough, 1993).

The economy of many of the developing countries in question is based on agriculture. The density of population per unit of land in some of these countries is high and per capita availability of land is poor. The average size of farm is very small compared to that of the developed countries. Lewis (1984) observes that the small farmers in developing countries have a tendency to become heavily indebted which reduces their ability and incentive to invest in raising the productivity of land. In the case of the industrial sector, there is a lack of adequate supply of entrepreneurs. Required infrastructural facilities to induce private investment is non-existent. Moreover, socio-economic environment is not very conducive to take the risk of setting up new industries. Under such circumstances both the agriculture and industry sectors of economy need support from the government at the early stage of development. Indeed, several countries in Asia adopted interventionist principles in the sixties and seventies, providing subsidies to agriculture and protection to industries.

The myth of 'structuralism' may be viewed as interventionism in the context of developing countries. This was criticised for the excess of government control over economic matters that contributed to chronic inflation, retarded development of the financial sector, proliferated bureaucratic regulations¹⁴, produced fiscal imbalance and increased external debt. The slow economic progress made by some of the developing countries has been diagnosed as the result of excessive economic intervention made by their own governments. In recent years, most of the developing countries have abandoned interventionism and adhered to reform.

1.6 Stagflation

The early 1980s witnessed a resurgence of interest in economic reform throughout the world. The oil price shocks¹⁵ in 1972-73 and in 1979-80 put the world economy into a severe recession. During this period, commodity prices declined and interest rates increased¹⁶. Finance became the most crucial factor world wide. As a consequence, all the developed countries of the world encountered 'stagflation'¹⁷ while the developing countries faced larger

¹² By that time, Britain lost its image as the greatest economic and political power while the United States emerged as the superpower. The role of 'international money was being played by the US dollar.

¹³ Among them, Arther Lewis is the leading one.

¹⁴ Soon (1994).

¹⁵ The Organisation of Petroleum Exporting Countries (OPEC) sharply increased the price of crude petroleum twice in the 1970s. As a result the world price of oil per barrel rose from US\$3 in 1972-73 to US\$30 in 1979-80.

¹⁶ See Krueger (1993).

¹⁷ A term used for simultaneous occurrence of rising unemployment and declining productivity growth i.e. stagnation, and accelerating inflation.

deficits in the balance of payments and their external debt sharply increased.¹⁸ Most of the developing countries were unable to service their debt, ensuring a world wide debt crisis. The recession continued until the 1980s producing the highest level of inflation and unemployment in the developed countries since the 1930s, while the prevailing orthodoxy of Keynesian interventionism was unable to satisfactorily explain the situation and suggest policy for it.

1.7 Counter Revolution

During 1970s emphasis shifted from fiscal to monetary policy in macro-economic management. The high rate of inflation was explained in the light of the Quantity Theory of Money. A strong intellectual consensus was built up against intervention of the government in monetary matters of the economy. The campaign was inspired by the writings of Milton Friedman¹⁹ and was identified as monetarism.²⁰ Eventually it was generally realised that inflation was an important question and that monetarism was able to provide an explanation and a policy for it; something Keynesianism was unable to do.²¹ Thus monetarism constituted an effective 'counter revolution' against the Keynesian orthodoxy that exerted substantial influence in policy reforms adopted by the USA, UK, Chile and elsewhere.²² Gradually, country after country started to move from state-dominated development model to a minimal state model.

1.8 Recent Inducement

The recent interest in market-led development is induced by the International Bank for Reconstruction and Development (World Bank) and the International Monetary Fund (IMF).²³ They lend money to governments in times of need expecting to get the money back on maturity of the lending period. It is in their interest to keep the size of the public deficit small and to create a favourable balance of payments position in the international trade of borrowing countries so that they are able to service their existing debt and depend less on further external finance. After the recession of the 1970s the IMF and the World Bank provided highly concessional soft loans to developing countries for structural adjustment. These loans required adherence to a large set of stringent conditions for economic policy reform. The suggested policy regime included achievement of macro-economic stability through monetary and fiscal discipline, avoiding price distortions, and liberalizing trade and investment. So far,

¹⁸ The amount of external debt for low- and middle-income countries grew from US\$63 billion in 1970 to US\$562 billion in 1980 (World Bank, 1991).

¹⁹ See for example, Friedman (1956; 1968; 1970a; 1970b).

²⁰ Friedman offered a considerable literature on the theory and measurement of monetary components in the economy. His effective writings helped the formation of a consensus against the Keynesian slogan that 'money does not matter'. He suggested that the monetary authorities should increase the money supply at the rate required by long-run real growth but should allow the market to freely perform the job of dealing with short-run adjustment (Screpanti and Zamagni, 1993).

²¹ For a critical analysis, see Johnson (1971).

²² See for evidence, Coats (1992).

²³ Both the organisations were created at a conference organised by the United Nations in 1944 at Bretton Woods, New Hampshire. The IMF was entrusted with the responsibility of managing the structure of exchange rates among the various world currencies and for financing short-term imbalances of payments among countries. The World Bank was given the authority to provide long-term loans for reconstruction of devastated economies after World War II and for development of the poorer countries of the World. A list of reform programmes undertaken and supported by these two organizations in different countries in the late 1980s is available in Krueger (1993).

the impact of reform has been positive on the growth of economy, fiscal deficits and inflation.²⁴ However, there are variations in results from country to country. More stories of success in reform are likely to be heard in the future.

1.9 This Study

A good number of academic and journalistic articles is currently available on the experience of recent economic reform in different countries. Very few of them have categorically underlined the consequences of reform on agriculture. Perhaps none of them has shown case by case whether or not the results differ from a developed to a developing country and why. Thus an inquiry into the matter was necessary on both academic and policy interests. This study presents evidence from Bangladesh and New Zealand to help assess the impact of recent reforms on economic development with special reference to agricultural development in the context of a developing and a developed country and explores implications for framing agricultural policies in future.

²⁴ See for evidence, World Bank (1997a).

CHAPTER TWO

EXPLAINING REFORM PREPAREDNESS

2.1 Political Economy of Bangladesh

2.1.1 Area, Location and Population

Bangladesh²⁵ is the youngest state of South Asia. Once known as East Bengal²⁶ and later as East Pakistan,²⁷ Bangladesh became an independent and sovereign state²⁸ of Asia in 1971. It has an area of 147,570 square kilometres, and is surrounded by India in the west, north and east, Burma in the south-east, and the Bay of Bengal in the south. The country is situated approximately between 20° 24" and 26° 34" north latitude and between 88° 01" and 92° 41" east longitude.

Bangladesh is a delta region, criss-crossed by canals and rivers. The greater part of the country is plain. The climate is tropical. It is humid and hot during summer, dry and mild during winter. Rainfall is heavy, but varies from district to district, ranging from 30 to 150 inches. Much of the precipitation occurs in the monsoon season, from May to October. During the peak period of the rains, sometimes the water level rises by about 30 feet above sea level. This makes high floods that cause heavy economic loss and enormous suffering to the people.

Bangladesh is the eighth most populous nation in the world. The total population of the country is about 120 million.²⁹ The natural resource base of the country is poor.³⁰ The physical features, climate and natural resource constraints have made the country predominantly rural. Rural population accounts for about 90 per cent of the total population.

Bangladesh is one of the poorest countries of the world. Average per capita income, as per a 1996-97 estimate, amounts to only US\$260. About a half of the population is considered to be below the poverty line.

²⁵ Bangladesh is the local-language name of the linguistic area. The mother tongue of the people of the country is *Bangla* (Bengali). *Desh* means country.

²⁶ Before the partition of India in 1947, Bangladesh was a part of British ruled India and was known as East Bengal.

²⁷ After the partition of India, Bangladesh became the eastern wing of Pakistan and was known as East Pakistan.

²⁸ The independence of Bangladesh was declared by the late President Bangabandhu Sheikh Mujibur Rahman at mid-night of 25th March and after a 9-month heroic struggle of the freedom fighters, the country was liberated from the occupation of the Pakistan army on 16th December, 1971. For a chronological development of events that led to the declaration of independence and for a description on mass killing and economic destruction by the Pakistan Army, as well as the nationalist resistance led by the Awami League (the party in majority headed by the Bangabandhu) during the liberation struggle, see Alam (1971).

²⁹ The density of population in Bangladesh is 775 persons per square kilometre (according to the 1991 Census), the highest in the World.

³⁰ The country possesses natural gas, limestone and lignite only on a limited scale.

2.1.2 Legacy of Previous Rulers

The original inhabitants of Bangladesh are thought to have come from central Asia. That was an early farming stage, when the felt needs of men were limited, and so too was the pace of development. The social base of those days was orthodox Hinduism. Later, Hinduism was replaced by Buddhism. However, following the Pathan conquest, an Islamic orientation and social formation gradually evolved.

The economic base of this geographical area can be traced clearly since at least the Mughal conquest in the 16th century when rural life was centred predominantly around agriculture. There was no shortage of land. Family labour could cultivate as much land as it wished. Agricultural production was dominated by an 'Asiatic mode of production'.³¹ This mode of production was, however, rubbed out with the emergence of artisans and merchants towards the end of the Mughal period. Dhaka emerged as one of the most important centres of textile in the world. It seemed possible that Bengali artisans and merchants could transform the economy from a feudalistic to a capitalistic one, as happened in eighteenth century England. But this did not happen.

For nearly two hundred years since 1757 until their departure in 1947, the British had influenced the evolution of the Asiatic mode of production. This region was developed by the creation of roads and railways that the rulers required to run their administration. However, no development was made in the agricultural or industrial production system to change the lot of the common people. Rather the artisans were destroyed. The peasants were exposed to the factories of Manchester and Liverpool, and were tied to the Yoke of the *Zaminders*—the local agents of British administration.³² As a result, agricultural production stagnated³³ and non-agricultural employment opportunities were squeezed with the destruction of cottage industries. Thus, the economic condition of a significant majority of people deteriorated. Consequently, there was increasing disaffection with colonial rulers.

The colonial rulers departed the scene in 1947. The task of developing this stagnant economy was left with the successor government of Pakistan. There was, however, no development³⁴ in this region. The western wing of Pakistan progressed at the cost of the eastern wing. The people of the then East Pakistan were exploited economically, culturally and politically by the West Pakistani rulers.³⁵ As a result, there was repeated mass movements in this region that led to the struggle for independence in 1971. Bangladesh emerged as an independent and sovereign state from the blood of 3 million freedom fighters who sacrificed their lives in the war of liberation.

³¹ Stagnant and change-resistant.

³² For an elaborate discussion, see Haque (1978) and Alam (1981).

³³ Blyn (1966) undertook a study of agricultural trends in India and observed that food-grain production in Bengal during the first half of the twentieth century experienced a decline by 0.73 per cent per year. Islam (1978) from his study in Bengal province for 1920 to 1946, came out with similar result.

³⁴ Griffin and Ghose (1979), stating World Bank figures, showed that during the 14 year period from 1960 to 1973, the annual per capita GDP declined in Bangladesh by 0.7 per cent a year. Another calculation based on the data provided by the Planning Commission shows that the average per capita income of this region declined by 3.6 per cent in 1969-70 compared to 1963-64 (Osmani and Rahman, 1981).

³⁵ Most of whom were army dictators.

2.1.3 Post Independent Era

The responsibility of reconstruction and rebuilding the war-torn economy was vested on the Father of the Nation Bangabandhu Sheikh Mujibur Rahman³⁶ and his party the Awami League. Bangabandhu became the Prime Minister. He declared four state principles: democracy, socialism, secularism and nationalism.³⁷ He wanted to achieve socialism step by step through a democratic way.³⁸ His government prepared the *First Five Year Plan* (1973/74-1977/78) with a commitment of transition to socialism.

At the initial stage, he nationalised banks, insurance companies and industries as a first step towards socialism. He gave priority to agricultural development and provided heavy subsidies for agricultural inputs for achieving self sufficiency in food production. At the same time he provided protection to domestic industries through import restriction. He also undertook land reform and announced the principles of the village based multipurpose cooperatives as a part of his 'second revolution'. In January 1975, he replaced the Parliamentary form of government by a Presidential form of government and became the President of the Republic, assuming all powers of the state. In February, he took other leftist political leaders into his confidence and declared the formation of the *Bangladesh Krishak Sramic Awami League*³⁹ in place of his own political party Bangladesh Awami League that led the war of liberation.⁴⁰

In 1974, after 3 years of independence, a severe flood caused heavy damage to crops. Prices of essentials became very high. There was a crisis of food in the country that continued until mid- 1975. When the country was in a position to overcome the crisis, Bangabandhu and his family members were brutally killed by a right-wing military coup on August 15.⁴¹ After that, a series of events⁴² put the Army Chief Major- General Ziaur Rahman (hence forth Gen. Zia) into power.⁴³

³⁶ Bangabandhu was the most popular leader of the sub-continent. His party Bangladesh Awami League won 292 out of 300 seats of the National Assembly of Bangladesh in parliamentary elections held in March 1973. Earlier, in general elections held in December 1970, his party won an overwhelming majority in the eastern wing of Pakistan, but he was not allowed to be sworn in as the Prime Minister of Pakistan. The new National Assembly was summoned but its assumption was postponed for an indefinite period by the then Pakistan President General Yahya Khan. This resulted in very strong protests all over East Pakistan. The Pakistan army launched a bloody attack on civilian people. Bangabandhu was arrested by the Pakistan army after he proclaimed the independence of Bangladesh at mid-night of 25 March and was put on trial in West Pakistan. After the liberation of Bangladesh he was released from the jail in Pakistan. He came back to a free Bangladesh on 10 January 1972.

³⁷ These principles were evolved from the spirit of the war of liberation. They were the dreams of the martyrs who made the supreme sacrifice during the war of liberation. Some people thought that the philosophy of neighbouring India and the former Soviet Union, who provided unconditional support to the freedom fighters, influenced the Bangladesh state principles.

³⁸ His ideas were popularly known as *Mujibbad* (Mujibism).

³⁹ Bangladesh Peasants' and Workers' League.

⁴⁰ Thus, Bangladesh appeared to have entered into a one-party state. In fact, it did not. Bangabandhu did not impose any ban on activities of other political parties or formation of a new party.

⁴¹ This can be compared with the fate of Dr. Salvador Allende, President of the Republic of Chile. Dr. Allende was elected to his post in 1970 as a Marxist candidate of a coalition of five left-wing parties and promised to achieve socialism through Constitutional means. After assuming power, he carried out an extensive nationalisation programme as a step towards socialism. However, in the face of a declining economic condition, Dr. Allende was killed in September 1973 by an army coup.

⁴² For a chronology of events, see *The Europa World Year Book 1997*.

⁴³ Gen. Zia was one of those who took a leading role in the war of liberation. Among others, he announced the proclamation of independence with clear expression in words of the name of Bangabandhu Sheikh Mujibur Rahman from Chittagong Radio Centre in late March 1971, which was later interpreted by his party-men as the declaration of independence.

Gen. Zia took over power as Chief Martial Law Administrator in November 1976 and as President in April 1977. He managed a vote of confidence in favour of him and his policies through a national referendum in May 1977. Meanwhile, he formed the Bangladesh Nationalist Party (BNP) and won a direct Presidential election in June 1978. Next year, in February 1979, he conducted Parliamentary elections in which other political parties including Bangabandhu's Bangladesh Awami League participated. BNP won 207 out of 300 seats and Awami League emerged as the largest opposition. Gen. Zia appointed a Prime Minister and subsequently repealed the Martial Law. The country returned to a multi-party democratic system.

Gen. Zia's government prepared the *Two Year Plan* (1978/79-1979/80) and the *Second Five Year Plan* (1980/81-1984/85) in the framework of a mixed economy. He announced denationalisation of industries and encouraged private entrepreneurship. He started handing over the responsibility of input distribution to the private sector and initiated gradual withdrawal of subsidies from agriculture. Initially, he handed over the pesticide marketing to the private sector,⁴⁴ withdrew subsidies from pesticide, and deregulated pesticide imports. He patronised a 'Self Reliant Movement'⁴⁵ and initiated a canal digging programme on a self help basis. However, he continued the import substitution policy to encourage production of domestic industries. Earlier he amended the Constitution and interpreted socialism to mean economic and social justice. After about six years in power, Gen. Zia was assassinated on 30 May 1981 in an attempted military coup.⁴⁶ However, his party remained in power until a successful bloodless coup on 24 March 1982 that brought the Army Chief Lt. Gen. Hossain Mohammed Ershad (Gen. Ershad) to power.

Gen. Ershad assumed power of the Republic initially as the Chief Martial Law Administrator. After 3 years, on 11 December 1983, he declared himself as President. He, like his predecessor Gen. Zia, legitimised his position through a nation-wide referendum in early 1985 and a Presidential election in October 1986. Earlier he helped the formation of a political party, named the *Jatia* (National) Party, of which he became the President in September 1986. He also arranged Parliamentary elections in May 1996 in which, among others, the Bangladesh Awami League headed by Sheikh Hasina (the eldest daughter of Bangabandhu) also participated. The Bangladesh Nationalist Party (BNP) headed by Begum Khaleda Zia (the widow of Gen. Zia) boycotted the polls. The *Jatia* Party won the elections bagging 153 seats. The Bangladesh Awami League emerged again as the largest opposition in the Parliament. Gen. Ershad named Mizanur Rahman Chowdhury—a former Awami League leader—as Prime Minister⁴⁷ while Sheikh Hasina was made the leader of the opposition.

⁴⁴ Bangladesh Agricultural Development Corporation (BADC), an autonomous organisation, was responsible for procurement and distribution of all agricultural inputs on behalf of the Government since the Pakistan period. As a move towards deregulation of inputs distribution, pesticide marketing was first handed over to the private sector in 1979.

⁴⁵ The main objective of the movement was to motivate people for standing on their own feet and so depend less on external assistance. A slogan of the movement was to 'turn hands of beggars into hands of workers'. For an in-depth evaluation of the movement, see Alam (1988b).

⁴⁶ It may be mentioned that there was repeated coup and counter-coup attempts after the assassination of the Father of the Nation on 15 August 1975 that caused a loss of lives of many army personnel of the country.

⁴⁷ Later in the face of a declaration from 73 Awami League Members of Parliament to resign, Gen. Ershad dissolved the *Jatia Sangsad* (National Assembly). New parliamentary elections were held in March 1988 that were boycotted by major political parties including the Awami League and BNP. *Jatia* Party won a large majority of seats and Gen. Ershad appointed a new cabinet with Moudud Ahmed as the Prime Minister.

Gen. Ershad continued to implement privatisation and other economic reform policies initiated by his predecessor.⁴⁸ Moreover, he took medium term loans from the IMF⁴⁹ and pursued structural adjustment policies suggested by the IMF and the World Bank. During his period, marketing of fertiliser and irrigation equipment was transferred from the BADC to the private sector. Subsidies on agricultural inputs were largely phased out. Tariffs on imports were reduced. He reorganised the top positions of the Ministry of Finance more than once to give a better shape to financial affairs of his government. There was, however, severe floods for two consecutive years (1977 and 1978) that resulted in repeated devastation. A large food deficit accompanied by high prices of essentials caused enormous suffering of the people. He faced intensive opposition from political parties in the following two years⁵⁰ and ultimately had to resign on 4 December 1990 handing over the power to a caretaker government.

The Parliamentary elections⁵¹ on 27 February 1991 gave BNP a small overall majority. Begum Khaleda Zia assumed office as the Prime Minister. Awami League Chief Sheikh Hasina became the opposition leader. A consensus constitutional amendment in August following its approval by the people through a referendum in the following month made the Prime Minister executive head of the government and the President titular head of the state.

After assuming power, Begum Zia followed a market economy. She encouraged denationalisation and promoted deregulation of trade. Her government relied on the private sector for distribution of agricultural inputs and removed subsidies from fertilisers and irrigation equipment. She followed a tight monetary and fiscal policy and introduced a 15% value added tax (VAT) over 1991 and 1992. Meanwhile, the Bangladesh Awami League amended its manifesto and became a follower of the market economy.⁵² Thus the difference between the Awami League and BNP on economic policy issues was narrowed.

The government of Begum Zia had to confront a severe drought in 1994-1995 that increased the prices of food-grains and the rate of inflation. The fertiliser crisis in 1995 and consequent killing of demonstrating farmers on the street by the law enforcing agency helped to grow peoples disaffection against her government. Moreover, continuous political unrest since the latter half of 1994⁵³ and finally, the non-cooperation movement⁵⁴ of the opposition in March

⁴⁸ He amended the Constitution in June 1988 to replace 'secularism' by 'Islam' as the country's state religion. Earlier in 1977, Gen. Zia brought a Constitutional amendment to give it an Islamic orientation by adding '*Bismillah*'.

⁴⁹ Two medium - term loan agreements were signed with the IMF during Ershad's regime; one under the Structural Adjustment Facility (SAF) covering the period 1986/87-1988/89 and another under the Enhanced Structural Adjustment Facility (ESAF) covering the period 1990/91-1992/93. The first medium term loan was taken during Zia's regime under the Extended Fund Facility (EFF) in December 1980. The loan was, however, cancelled 6 months after its initiation due to non-compliance of the conditionality imposed on government borrowing. However, the World Bank funding continued with commitments to adhere to conditionalities of Structural Adjustment (Rahman, 1992).

⁵⁰ In fact, Gen. Ershad had been facing strong political opposition throughout the whole period he was in power and many people sacrificed their lives in the movement for democracy.

⁵¹ Elections were conducted under a neutral caretaker government headed by Justice Shahabuddin Ahmed, the Chief Justice of Bangladesh. Earlier he joined as Vice-President of the country, and after the resignation of Gen. Ershad, he became the Acting President.

⁵² This policy change was thought to be in the right direction after the revolutionary changes occurring in the former USSR, Eastern European countries and China.

⁵³ Since the latter half of 1994, different parties in opposition including Awami League and Jatia Party demanded resignation of Begum Zia and holding of fresh Parliamentary elections under a neutral caretaker government. All the opposition members in the Parliament resigned en-masse on 28 December 1994 in support of their demand. After that the combined opposition intensified their strike and street demonstration.

1996 forced Begum Zia and her cabinet colleagues to resign on 30 March 1996 in order to facilitate fresh elections under a neutral caretaker government.

In fresh Parliamentary polls⁵⁵ on 12 June 1996, the Bangladesh Awami League achieved a simple majority bagging 146 seats. Sheikh Hasina was sworn in as the new Prime Minister.

After assuming power, Sheikh Hasina followed a market economy. She has maintained the recent tradition of economic reform and has committed to go ahead with the policy of privatisation. Her government plans include further liberalisation of imports, rationalisation of tariff structure, reduction of tariff rates and establishing a more flexible exchange rate policy.⁵⁶ The new Awami League government has prepared the *Fifth Five Year Plan* (1997/98-2001/2002) under the frame work of a market economy.

Within two and a half decades after independence, the Bangladesh economy has transformed from almost a closed to a completely open economy. The process of transformation was often painful, soaked with tears. But the recent outcome of reform appears to be hopeful. As a small developing country, the Bangladesh experience would provoke useful thinking and stimulate the current policy debate all over the world

2.2 Political Economy of New Zealand

2.2.1 Area, Location and Population

New Zealand is an independent country⁵⁷ with an area of 270,500 square kilometres.⁵⁸ The country is situated in the South Pacific Ocean and comprises of two main and a number of smaller islands.⁵⁹ The administrative area of the country extends from 33° to 53° south latitude, and from 160° east to 173° west longitude. Total population of the country is 3.7 million.⁶⁰ The country is highly developed. She had a per capita income of US\$13,190 in 1994 (measured at average 1992-94 prices) which placed her among the richest 20 per cent of countries in the world.

The economic development of New Zealand is largely attributed to its colonisation in the 19th century. She became a dominion under the British Crown in 1907, after a peace treaty with indigenous Maori tribes in 1840 gave her a semi-independent status. During the colonial period, the lower middle class British migrants formed the European heritage in New Zealand and the country was developed quickly using British capital. The major development occurred

⁵⁴ The government of Begum Zia conducted a parliamentary elections on 15 February 1996 that was boycotted by all the major political parties. The opposition rejected the election results and started a movement of non-cooperation against her government.

⁵⁵ Polls were held under a neutral caretaker government headed by the former Chief Justice of Supreme Court Mohammed Habibur Rahman as Chief Adviser (Acting Prime Minister).

⁵⁶ Awami League government devaluated the currency several times making a 7.17 per cent downward adjustment of Bangladesh Taka against US dollar in 1997.

⁵⁷ She is a democratic parliamentary monarchy, constitutionally tied to the United Kingdom. Queen Elizabeth II has the title Queen of New Zealand and is represented by the Governor-General.

⁵⁸ The area of New Zealand is almost equal to that of Japan, little larger than that of the United Kingdom and twice as big as that of Bangladesh.

⁵⁹ The two main islands are North Island and South Island. Wellington is the capital of the country situated in the North Island.

⁶⁰ The density of population is 13.4 persons per square kilometre (as on 5 March 1996).

in the pastoral sector⁶¹ with the adoption of best available technologies in the world. The country was viewed as a 'distant farm' for Great Britain. The British Parliament adopted full independence of New Zealand in 1931 and the country became an independent state in 1947.⁶²

The economy of New Zealand is typically based on agriculture. The country has a large area of productive land relative to the size of population and produces more food and fibre than she requires. The surplus is exported to other countries in exchange for manufactured goods, capital equipment and raw materials required to expand her manufacturing sector. The country is export oriented and her exports are largely land and natural resource based.

2.2.2 Chronology of Change

New Zealand had been a welfare state since the late 19th century. The state was heavily involved in ensuring economic, social and political wellbeing of the people. There was state intervention in the development of general infrastructure and provision of education, health and social welfare safety nets that constituted the country's 'first policy revolution'.

The depression of the 1930s was an important reason for increasing state intervention. After the election of the first Labour government in 1935, a strong import substitution policy⁶³ was followed to achieve full employment. State ownership of industries and resources was extended. Social welfare programmes were intensified to ensure peace and happiness of the people. This was the beginning of New Zealand's 'second policy revolution'.

The second world war created a high demand for agricultural products in the war ravaged world. This resulted in a boom in commodity prices. New Zealand took advantage of it and became one of the richest countries of the world. The rate of unemployment declined to less than 0.1% of the work force. Inflation remained at a low level. Starting from the late 1940s to the early 1970s there was a 'golden age' for New Zealand. The country achieved significant progress through a mixed economy.⁶⁴ An economist has described the economic order of that time as "a market economy where markets are seldom permitted to operate efficiently, together with a centrally planned economy without a central plan".⁶⁵

The first oil shock in 1973 coupled with the end of specially negotiated access to British agricultural product markets by New Zealand exporters⁶⁶ in the same year caused a deterioration in the economic condition of New Zealand. The situation was further aggravated by the second oil shock in 1979. New Zealand's terms of trade sharply declined and overseas net public debt increased from about 7% of GDP in 1973 to about 30% of GDP by the end of 1984. Inflation climbed to around 15 per cent and unemployment continued to rise. The growth of the economy significantly declined towards the late 1970s. During that period, subsidies on agriculture continued to increase in size and government involvement in various

⁶¹ Consists mainly of the sheep industry, producing lamb, mutton and wool; the beef industry, producing beef, and the dairy industry producing milkfat.

⁶² In the same year, India and Pakistan (Bangladesh) received independence from British rule.

⁶³ Mainly through import licensing and imposition of high tariffs on finished goods. For details, see Sandrey and Reynolds (1990), and Silverstone *et al.* (1995).

⁶⁴ For further discussion, see Dalziel and Lattimore (1996).

⁶⁵ McLean (1978).

⁶⁶ New Zealand had a special trading partnership with the United Kingdom that allowed the former to export large quantities of agricultural products to the latter at favourable prices under the Ottawa Agreement of 1932. For about 40 years, the United Kingdom had been the main partner for New Zealand's exports. This partnership came to an end with the formal entrance of the United Kingdom in the European Union on the 1st day of January 1973.

social security schemes expanded. As a result, a serious fiscal crisis developed. Further intervention to improve the situation was tried in the early 1980s by the National government headed by Sir Robert Muldoon, but the outcome was a failure. Thus there was growing support for a major change in government policy.

The National government was defeated in the July 1984 general elections securing only 37 out of 95 seats of the House of Representatives. The Labour party bagged 56 seats. A new government was formed with Labour Party chief David Lange as the Prime Minister and Sir Roger Douglas as the Finance Minister. Sir Muldoon was replaced by James McLay for the National Party leadership. However, in March 1986, James McLay was replaced as party leader by his deputy, James (Jim) Bolger.

The new Labour government faced the economic crisis with a shift in policy towards liberalism. This marked the beginning of the country's 'third policy revolution'. The Minister of Finance, Sir Roger Douglas, had held liberal market views for a long time and announced in his first budget speech the intention of his government for a comprehensive economic and policy reform. Indeed, he accomplished the task successfully and in the following few years the government adopted the reform policies very thoroughly. Important changes in policies included devaluation and floating of the currency, reducing high tariff rates, abolition of export incentives, elimination and phasing out of agricultural subsidies, privatisation of state owned enterprises, reforming the tax system and introducing the Goods and Services Tax (GST) on domestic expenditure. As a result, fiscal balance improved, but the rate of unemployment increased and real agricultural income declined. However, public support for reform continued.

The Labour Party made a second victory in general elections held in August 1987. Nevertheless, a collapse in the share market⁶⁷ in late 1987 together with continued growth in the rate of unemployment caused a loss of confidence in reform. The Finance Minister Sir Douglas tried to proceed further with reform policies while the Prime Minister Mr. Lange wanted a halt. This disagreement culminated in resignation of Sir Douglas from the Cabinet by the end of 1988 and ultimately Mr. Lange's resignation from the office of Prime Minister in August 1989. Sir Geoffrey Palmer, Deputy Leader of the Labour Party became the Prime Minister. After about a year in that position, Mr. Palmer resigned as Prime Minister because public opinion polls had indicated a decline in popularity of the labour party under his leadership. He was succeeded by Mike Moore (the Minister of External Resources) as Prime Minister and Labour Party Leader.⁶⁸

The general elections in October 1990 brought about a defeat for the Labour Party. The National Party formed the government winning 67 out of 97 seats in the House of Representatives. The new government headed by James Bolger promised to continue strict monetary and fiscal policies initiated by the Labour government, to undertake further deregulation of the labour market, and to continue sales of state assets. The policy reform initiated by the new government included reductions in unemployment benefits, family benefits

⁶⁷ The share market price index in New Zealand multiplied almost three times in two and a half years from 1463 in March 1985 to 3969 in mid- September 1987 (Dalziel and Lattimore, 1996). The index rose faster when the Labour Party returned to power after the general elections held in August 1987. However, the share prices started to decline from the later part of September 1987 and the index came down to 1942 on the 31st of December 1987. It took only three and a half month for share prices to fall back to less than a half of their peak value. Government observed the episode, but kept away from any intervention.

⁶⁸ During these changes in Labour Party leadership, the pace of reform might have slowed down but the general direction remained almost the same.

and sickness payments. The users of medical and educational services were made liable to pay part of the costs, according to a means test. The agricultural research system was restructured and the extension system was approaching towards complete privatisation through cost recovery. Earlier, the services of Chief Executives of government departments were made contractual making them more accountable to the concerned Minister. Henderson (1996, p. 10) observes, "Looking across the whole range of economic policies, no other OECD countries has such a portfolio of liberalising measures to show".

The National Party returned to power with a narrow margin after the general elections held in November 1993. The decline in popularity of the Party was largely interpreted as a reluctance of the people towards further radical economic reforms. Thus the reform programme that was initiated in July 1984 almost concluded with the passing of the Fiscal Responsibility Act⁶⁹ in June 1994. Meanwhile, economic growth rate increased, employment situation improved and the inflation rate declined. But the party in power was unable to regain public confidence. The National Party managed to win only 44 of the 120 seats in the expanded House of Representatives in general elections held in October 1996 and formed the government in alliance with New Zealand First, led by Winston Peters.⁷⁰ The Labour Party became the largest opposition in the House securing 37 seats. However, neither of the two parties who pursued radical economic reform during the last decade was able to achieve an absolute majority.

New Zealand has liberalised its economy within one decade. The period of reform was short and the programmes were comprehensive. The country has emerged as a laboratory of the whole world for testing contemporary theories and analysing the results of experiments on economic reform. The experience of New Zealand would provide useful policy direction for those who are now passing through the process of economic liberalization.

2.2.3 Sequence of Reform

Bangladesh and New Zealand are located in two different continents of the world. One is a poor country and the other is rich. The level of economic development differs significantly from one another. But the economic base of both the countries is agriculture. Both undertook economic reforms during the 1980s and early 1990s. However, the sequence of reform was not the same, and the speed of reform was different for the two countries. The political economy of the two countries was also different. Thus they are not comparable on the same platform, and the outcome of reform of the two countries are analysed case by case in the following two Chapters. Nevertheless, the findings generated from the two case studies and conclusions drawn from those and other findings are discussed parallelly in the subsequent Chapters.

⁶⁹ The Act does not imply an end of changes in New Zealand fiscal policy. But it marks the end of a decade in which many of the reforms were carried through (Silverstone *et al.*, 1996).

⁷⁰ James Bolger became Prime Minister again. Winston Peters was appointed Deputy Prime Minister. A leadership change late in 1977 witnessed the replacement of James Bolger by Jenny Shipley, who became New Zealand's first woman Prime Minister.

CHAPTER THREE

IMPACT OF REFORM IN BANGLADESH

3.1 Three Time Phases

During the last 25 years (1972/73-1996/97) of economic reconstruction and development in Bangladesh, three successive time phases of policy changes can be clearly identified. These are: the phase of intensive intervention, the initial phase of liberalisation, and the phase of economic reform.

Phase one starts from 1972/73 and goes up to 1977/78. This phase was characterised by the post independence reconstruction that broadly corresponds to the implementation period of the *First Five Year Plan* (1973/74-1977/78). The objective of planned development was to achieve socialism in a democratic manner. All financing organisations and industries were nationalised. There was considerable state control over the economy. Agriculture enjoyed heavy subsidy and the public sector was responsible for inputs distribution. Domestic industries were protected from foreign competition through import restriction. Thus the first six years of post independence period can be identified as the phase of intensive intervention.⁷¹

Phase two goes from 1978/79 to 1989/90. Three development plans, namely the *Two Year Plan* (1978/79-1979/80), the *Second Five Year Plan* (1980/81-1984/85), and the *Third Five Year Plan* (1985/86-1989/90) were implemented during this period. This was a phase of army-led development.⁷² This phase was marked by denationalisation of industries, gradual withdrawal of subsidies from agricultural inputs and privatisation of the input distribution system. Government policies were influenced by Structural Adjustment Policies of the World Bank and the IMF. These 12 years can be identified as the initial phase of liberalization.

Phase three starts from 1990/91 and goes up to 1996-97. During this phase, the *Fourth Five Year Plan* (1990/91-1994/95) was implemented. The economy relied more on market forces and state intervention in the economy was substantially reduced. There was a marked reduction of tariff rates on imports and a reduction of subsidies for agricultural inputs. A tight monetary and fiscal policy and a flexible exchange rate policy were followed throughout this phase. These seven years can be identified as a period of parliamentary democracy and a period of economic reform.⁷³

⁷¹ There was a political change on 15 August 1975 with the assassination of Bangabandhu Sheikh Mujibur Rahman, the President of the country. This political change was not, however, immediately translated into economic policy change. It was most likely that the two important sectors of the economy, agriculture and industries, continued to be benefited by policies formulated by the Bangabandhu until the terminal year of the *First Five Year Plan*.

⁷² Two army Generals led the country during this phase. However, they came to power in a similar way, legitimated their positions in a similar way, and adopted the same nature of policies for economic development.

⁷³ There was a change of government after the parliamentary polls in mid-1996. However, this did not affect the continuity of policies undertaken on economic reform.

3.2 Macro-economy

3.2.1 Structure of the Economy

Economic structure refers to the relationship among the various sectors of the economy. Generally three main sectors, namely primary, secondary and tertiary are broadly recognised. The primary sector includes economic activities that are directly related to nature. In many countries, agriculture (crop, livestock, forestry and fisheries), mining and hunting represent the primary sector. The secondary sector deals with processing and transformation of the products of nature. Thus manufacturing and construction activities are incorporated into the secondary sector. The tertiary sector, commonly known as the service sector, includes household, commercial, financial, professional and governmental services. All goods and services produced within a country in a given time are distributed over the above three sectors. These diverse products cannot be added up directly. For this purpose a common denominator, money, is necessary. When all final goods and services are estimated in terms of their money value this is called the gross domestic product (GDP). Thus an examination of the composition of GDP of a country provides the necessary insights into the structure of the economy.

Bangladesh Bureau of Statistics (BBS) furnishes data on annual value addition created by production of all goods and services in 11 groups. For convenience, we have decomposed them into three groups: (1) agriculture (primary), (2) industry and construction (secondary) and (3) services (tertiary) sectors. Agriculture includes, crops, livestock, forestry and fisheries sub-sectors.⁷⁴ All residual sub-sectors,⁷⁵ other than industries and construction, have been grouped under the services sector.

Figure 1.1 shows the composition of Bangladesh real GDP⁷⁶ in 1996-97. It can be noted that the share of agriculture to GDP is 32 per cent. The secondary sector (industries and construction together) contributes 17 per cent to GDP, while the services sector contributes 51 per cent. Although the relative share of agriculture to GDP has declined over time (Table A-1), the contribution of agriculture to GDP in Bangladesh is still very high.⁷⁷ On the other hand, the share of the industrial sector to GDP is very low.⁷⁸

It was expected that in a growing economy, the share of agriculture to GDP would fall and that of manufacturing would rise, followed by a rise in the share of services sector.⁷⁹ In Bangladesh, the share of agriculture has declined sharply over time from 49.8 per cent in 1972-73 to 32 per cent in 1996-97 (in 1984-85 prices) although the total value of agricultural production increased significantly over time. In contrast, the share of industries to GDP remained stagnant and that of the services sector increased (Figure 1.2). It means that the decline in the contribution of agriculture to GDP was compensated by a rise in the share of the services sector. The evidence suggests that the industrial sector in Bangladesh did not grow

⁷⁴ The contribution of mining and quarrying to GDP is insignificant and has been added with industry.

⁷⁵ Includes power, gas, water and sanitary services; transport, storage and communications services; trade services; housing services; public administration and defence services; banking and insurance services; and professional and miscellaneous services.

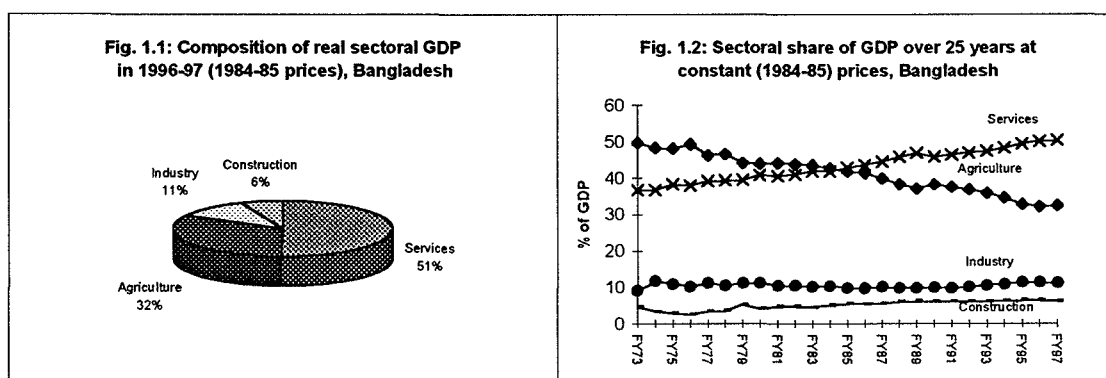
⁷⁶ BBS (1993) defines GDP as the money value of all the final goods and services produced within a country in a year less the intermediate consumption (those used up in the production process).

⁷⁷ The share of agriculture to GDP is less than 10 per cent in developed countries, while the share of manufacturing is over 15 per cent.

⁷⁸ For a comparison with other developing Asian countries, see Asian Development Bank (1996).

⁷⁹ See for evidence and arguments, Kuznets (1971).

over time and the transfer of labour occurred mainly from agriculture to low paid services rather than to industries. The first phase of development in Bangladesh was characterised by state intervention when almost all industries were under state control. During the second phase, most of those industries were privatised by army-led governments in conformity with Structural Adjustment Policies. The privatization and deregulation process was even intensified during the third phase, i.e. the phase of economic reform when the country was under parliamentary democracy. But the relative share of the industrial sector to GDP did not show signs of improvement. It appears from Sobhan (1990) that the post intervention period reform policies were unable to promote competition in the industrial sector and that there was large scale financial indiscipline and debt-default in private industries. Frequent strikes and political unrest in the early 1990s was another factor responsible for stagnation in the industrial sector. In any case, the long-term stagnation in the share of the industrial sector to country's GDP is a cause of major concern and should be dealt with all seriousness.



3.2.2 Per capita GDP

An important method of evaluating the performance of an economy is to concentrate on real per capita GDP over time. The real per capita GDP is obtained by dividing the annual real GDP by the mean population. To reflect the true improvement in average living standard of the population in a country, real per capita GDP is used in economic analysis. The real GDP is calculated by removing the impact of inflation on nominal values of GDP. Thus the real per capita GDP, after taking away the impact of inflation and growth of population, provides a measure of how the average living standard of the population of a country changes over time.

The change in real per capita GDP in Bangladesh over the last 25 years is shown in Figure 1.3. It can be noticed that the average standard of living of Bangladeshi people has improved over time. The real per capita GDP in 1972-73 was Taka 3561 (in 1984-85 prices), that increased to Taka 5461 in 1996-97 (Table A-2). It implies that the general standard of living of Bangladeshi people has increased by 53 per cent over the last 25 years. There are, however, many countries in Asia who have achieved much higher increases in real per capita GDP over the same period.

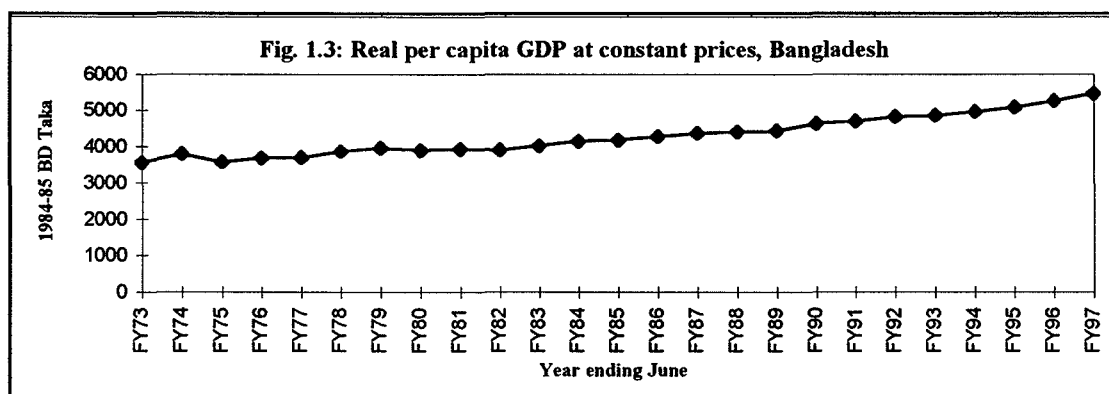


Figure 1.3 shows an overall upward trend of real per capita GDP. There were, however, some deviations from the trend. The economy experienced a strong growth in 1973-74, after independence, then fell during the flood year of 1974-75. After that the economy slowly improved throughout the 1980s. There were marked falls of real per capita GDP in 1976-77 and 1979-80 due to floods, and in 1981-82 due to drought and political turmoil. The economy then picked up, but fell down again and again in 1984-85, 1987-88 and in 1988-89 due to floods that seriously disrupted economic activities. The growth of real per capita GDP strongly recovered in 1989-90 and after that continued to increase without any setback.

To have a comparison of average annual increase in the standard of living among the three phases, annual growth rate of real per capita GDP were calculated by fitting semi-logarithmic trend lines. The calculation shows that the real per capita GDP grew at the rate of 1.67 per cent over the last 25 years. The growth rates were 0.99 per cent for the first phase, 1.55 per cent for the second phase and 2.43 per cent for the third phase. It appears that the improvement in general standards of living was associated with the progress of economic reform.

3.2.3 Savings and Investment

Just after independence, the country faced considerable macro-economic imbalance. Consumption exceeded income,⁸⁰ and the savings/ GDP ratio became negative. As a result, the country had to depend heavily on foreign assistance to meet the resource gap. Even today, the country's development programmes are tied to the generosity of the 'Paris aid consortium'.

An important feature of recent macro economic experience in Bangladesh is the steady rise in the saving rate. The national saving rate has risen from -1.19 per cent in 1972-73 to about 9 per cent in 1989-90 and further to about 15 per cent in 1996-97. The investment-GDP ratio has also increased (Table 1.1).

A major part of the saving has been contributed by public savings that was generated through creation of surplus in the government's budget. Another part of saving has come from private households who received remittances from abroad but spent only a part of it. Moreover, recent improvements in the country's financial discipline might have discouraged people from consumption of unearned income that aided savings. In addition, the real interest rate which has been positive, encouraged the formation of private savings.

⁸⁰ Consumption expenditure was 101.92% of the GDP in 1972-73.

Table 1.1
Trends in Selected Macroeconomic Indicators (% of GDP), Bangladesh

	1973-78a/	1979-90b/	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
Consumption	99.25	97.75	97.28	95.87	94.16	92.39	90.93	91.66	92.77	90.48
Private	89.78	84.93	83.28	82.12	80	78.23	76.63	78.2	79.12	76.54
Public	9.29	12.81	13.99	13.75	13.78	14.1	14.29	13.75	13.65	13.95
Investment	8.21	13.38	12.8	11.5	12.12	14.26	15.42	16.63	16.99	17.37
Private	4.40	7.12	6.41	5.82	6.63	7.85	7.83	9.41	10.71	10.86
Public	3.81	6.25	6.39	5.68	5.49	6.41	7.59	7.22	6.29	6.52
Trade balance	-7.46	-11.12	-10.08	-7.38	-6.48	-6.66	-6.35	-8.29	-9.75	-7.86
Export	4.94	7.41	8.33	8.82	9.8	12	11.87	14.19	14.17	15.52
Import	12.40	18.53	18.41	16.2	16.28	18.66	18.22	22.48	23.92	23.38
Gross domestic savings1/	0.75	2.25	2.72	4.13	5.84	7.61	9.07	8.34	7.23	9.52
Gross national savings2/	3.94	9.71	9.17	10.86	13.01	11.71	13.8	13.09	11.85	14.63
Current account balance	-4.72	-6.36	-4.15	-2.43	-2.55	-1.63	-3.54	-3.54	-5.14	-2.75
Inflation rate (%)	21.89	10.74	9.3	8.9	5.1	1.4	1.8	5.2	4.1	3.2

a/ Average of 1972/73 to 1977/78.

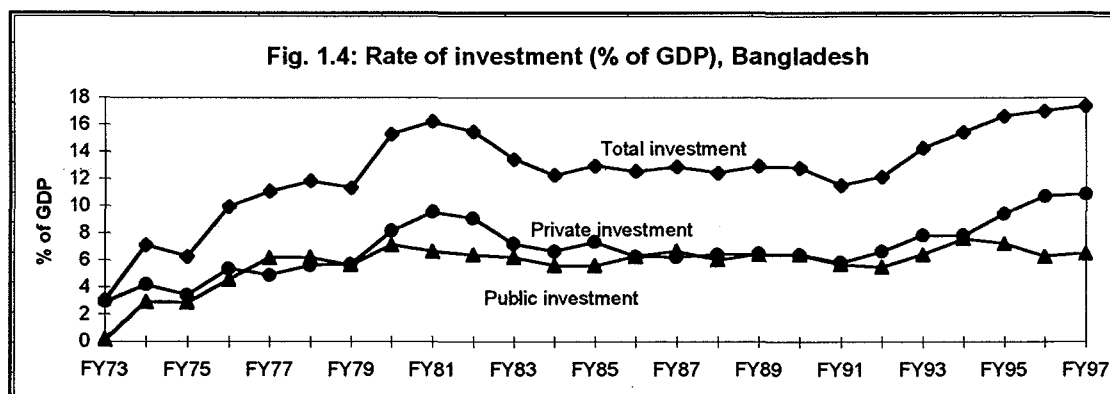
b/ Average of 1978/79 to 1989/90.

1/ Equals gross national savings minus net factor income from abroad minus net private transfers from abroad.

2/ Equals investment minus foreign savings.

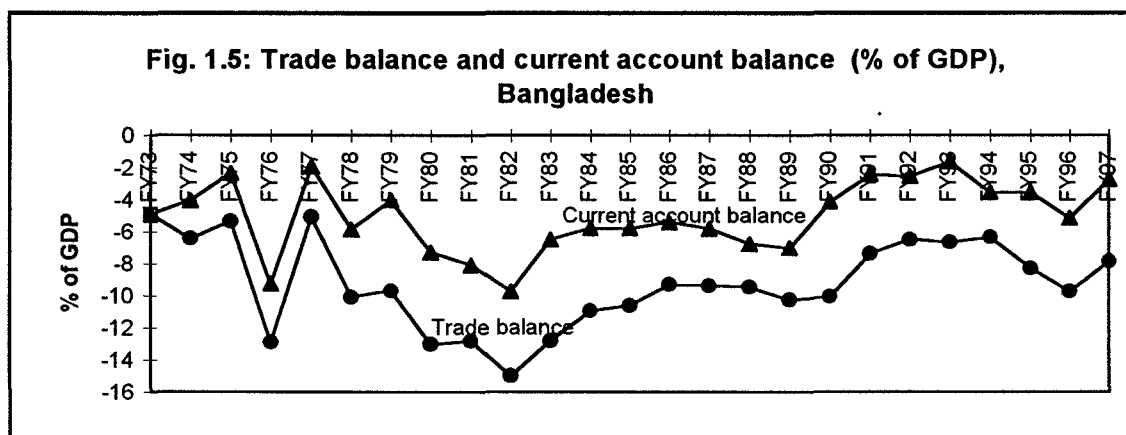
Source: BBS (1993; 1997), World Bank (1997a) and author's own calculation.

Investment in the private sector has recently increased faster than in the public sector. Since 1993-94, the relative position of public sector investment declined (Figure 1.4). This has 'crowded in' private investment. The aggregate rate of investment in terms of investment-GDP ratio is still lower in Bangladesh compared to other developing countries of the world. Given the steady increase in the saving rate and assured assistance from the donors, it may be possible to increase the investment-GDP ratio from the current 17 per cent to about 25 per cent in the near future.



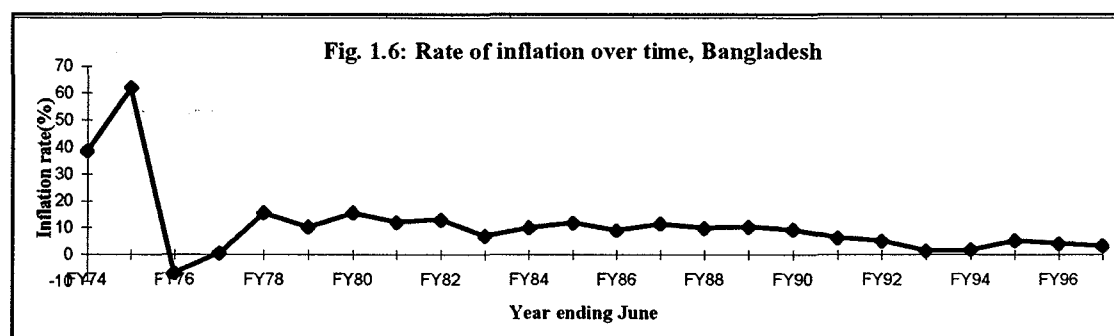
3.2.4 Current Account Balance

Bangladesh has experienced a gradual reduction in its current account deficit in most recent years (Table 1.1). The liberalization of trade has resulted in a rapid increase in the volume of exports and imports, but the rate of increase in exports has been faster than the rate of increase in imports in the early 1990s. Thus the trade deficit reduced. Moreover, there has been a strong growth of remittances⁸¹ for the last couple of years that resulted in an improvement in the current account balance. In most recent years, both current account and trade balances declined, but after political stability achieved through 1996 general elections, the situation improved again (Figure 1.5).



3.2.5 Inflation Rate

Recent reform in monetary policies has made a significant beneficial impact on the rate of inflation. Just after liberation, in the early 1970s, the country experienced very high inflation. The inflation rate, as measured by consumer's price index, went up to 62 per cent during the year of floods in 1974-75 (Figure 1.6). After the political change of August 1975, there was a sharp decline in the rate of inflation. However, the inflation rate increased in the following few years and was hovering around 12 to 15 per cent until the political change in 1982. The rate of inflation contracted in 1982-83, after the political change, and increased again in the following few years.

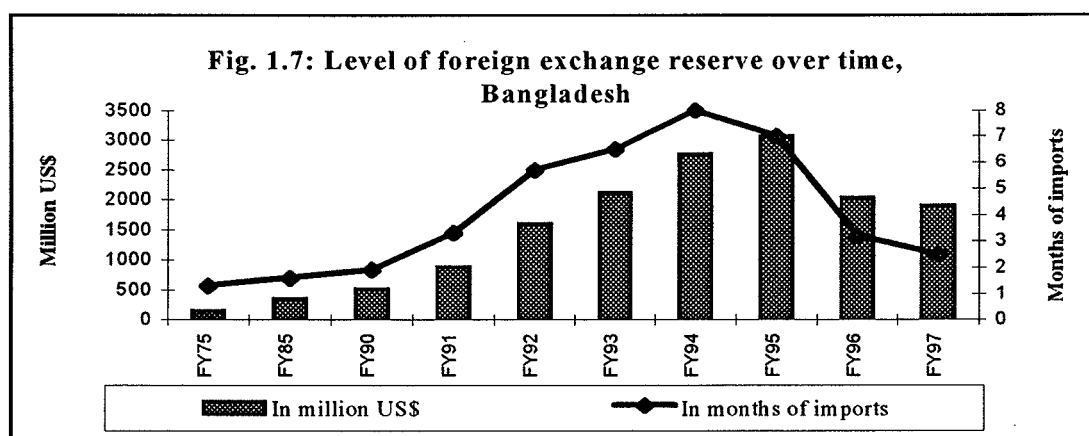


⁸¹ Workers remittances increased from 761 million US dollars in 1989-90 to 1475 million US dollars in 1996-97.

During the early 1990s the rate of inflation gradually declined and came down to 1.4 per cent in 1992-93 due to a tight monetary and fiscal policy adopted by the government. But it rose to 5.2 per cent in 1994-95 mainly due to higher food prices, following a drought in the northern areas of Bangladesh that affected agricultural production. Nevertheless, with good harvests in the following two years, the rate of inflation contracted again.

3.2.6 Foreign Exchange Reserve

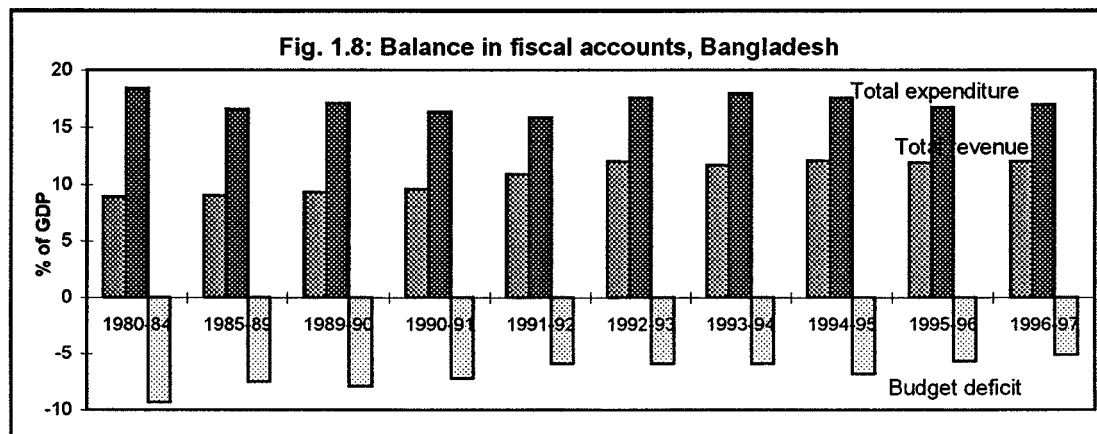
The foreign exchange reserve level of the country had been always very low during the 1970s and 1980s. The reserve level was equivalent to only about 1.3 months of merchandise imports in 1973-74 that increased slowly over the 1980s and early 1990s reaching its peak in 1993-94 to 8 months of import equivalent (Figure 1.7). This level of reserve, however, has declined in most recent years. The high build up of foreign exchange reserve in the early 1990s was attributed to stronger monetary and fiscal policies that improved the macro-economic climate of the country. In addition, high growth of export and wage earners' remittance have substantially contributed to the high level of foreign exchange build up. The recent depletion of reserve was related to the continuing downward trend in the aid disbursements and private portfolio capital outflows driven by developments in stock markets⁸² (World Bank, 1997b).



⁸² In the late 1996, share prices in Bangladesh multiplied more than three times. When the Bangladesh Awami League came to power after general elections in June 1996, share prices started to increase. The index of ordinary shares (base 1986-87 = 100) on the Dhaka Stock Exchange (DSE) jumped from 367.03 in July 1996 to 1122.49 in November 1996 (BBS, 1997). This resulted in a wave of investment in the share market. Thousands of unemployed people, college and university students, hoodlums, political activists and others gathered outside the Dhaka and Chittagong stock exchanges for share trading. Many people encashed their bank savings and deposits, sold real assets or acquired some cash through borrowing for investment in the share market. However, the prospect of making money out of share trading became bleak as share prices started to decline. In June 1997, the price index came down to 414.86, just near the bourses' starting point in July 1996. Meanwhile, few people became richer, foreigners departed from the market at the peak and took money away out of the country, but many small investors lost most of their capital. Several thousand joined protest rallies in front of the two bourses, DSE and CSE. Government observed the situation, formed an inquiry committee, and filed cases against those who were found to have influenced the episode. But there was hardly any punishment.

3.2.7 Fiscal Balance

Bangladesh has made significant improvement in the fiscal sector in recent years (Table 1.2). Total revenue collection increased while expenditure declined in the 1990s resulting in an improvement in the fiscal deficit. As a result, the dependence on foreign assistance declined. Figure 1.8 shows a gradual increase in total revenue in the early 1990s. This was mainly due to an increase in tax revenue since 1991-92. Tax revenue increased sharply due to the introduction of a value added tax (VAT)⁸³ in that year. In later years, the coverage of VAT was extended.



On the other hand, the total expenditure of the government, as a proportion to GDP, has declined (Table 1.2) due to a relative decline in expenditure in the non-revenue areas, particularly in the areas of development and capital expenditures where the private sector could make a positive contribution. Thus the overall budget deficit of the government declined (Figure 1.8). At the same time, the government increased its domestic borrowing from banks⁸⁴ and non-bank sources to finance its declining deficits. As a result, foreign aid financing of ADP declined from 75 per cent in 1990-91 to 51 per cent in 1996-97.⁸⁵

The government had to depend almost entirely on external resources for implementation of its development programmes during the 1970s. Recent reforms in the fiscal sector has improved the situation.⁸⁶

⁸³ This was the most remarkable innovation of the then Finance Minister Mr. Saifur Rahman, who in spite of strong opposition, was able to implement it successfully.

⁸⁴ This was done when the demand for credit from the private sector was low and the banking system was able to lend to the government without facing any liquidity crisis.

⁸⁵ The magnitude of overseas external debt in 1996-97 was about 50% of GDP. About 11 per cent of the country's export earnings or about US\$ 600 million was required for debt service payments.

⁸⁶ While the dependence on public overseas borrowing has declined in Bangladesh in recent years, the dependence on domestic borrowing has increased. The magnitude of domestic debt has increased to 12 per cent of GDP in 1996-97 from 8 per cent in 1992-93.

Table 1.2
Trends in Fiscal Accounts (% of GDP), Bangladesh

	1980-84a/	1985-89b/	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
Total revenue	8.9	9	9.3	9.6	10.9	12	11.7	12.1	11.9	12
Tax revenue	7.2	7.2	7.8	7.8	8.8	9.6	9.2	9.5	9.4	9.8
Total expenditure	18.4	16.6	17.1	16.4	15.9	17.6	18	17.6	16.8	17
Current expenditure	6.4	7.7	8.8	8.7	8.3	8.9	8.8	8.8	9.1	8.6
Overall budget deficit	-9.3	-7.5	-7.9	-7.2	-5.9	-5.9	-5.9	-6.8	-5.7	-5.1
Net foreign financing			6.6	6.2	4.9	5.6	4.9	4.9	3.6	3.6

a/ Average of 1979/80 to 1983/84.

b/ Average of 1984/85 to 1988/89.

Source: BBS (1993; 1997).

3.3 Agriculture

3.3.1 Agriculture in the Economy

Agriculture is the dominant sector of the economy contributing 32 per cent to the GDP. Approximately 24 per cent of the GDP is derived from crops and 18 per cent from rice alone. Livestock and fisheries each contribute around 3 per cent to the GDP against 2.4 per cent contributed by forestry. This sector generates about 22 per cent of total export earnings and provides employment to about 63 per cent of the labour force.

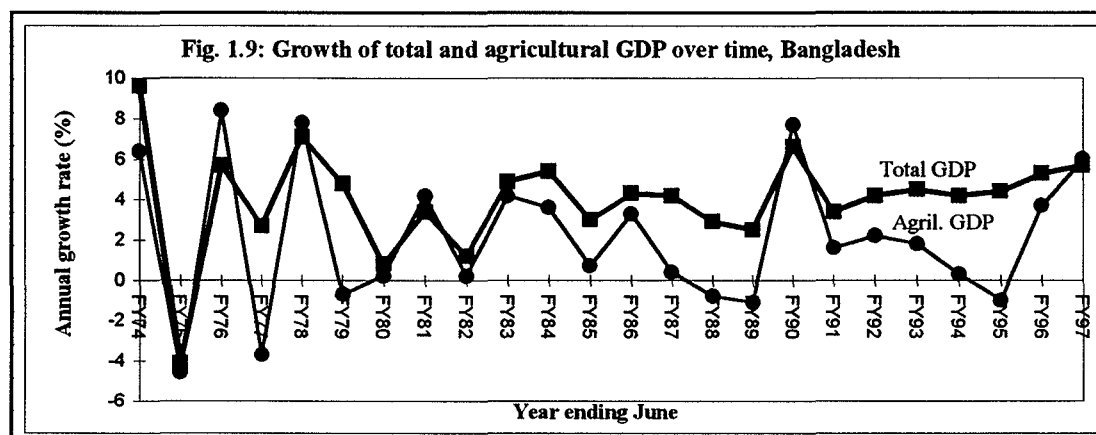
Although the relative share of agriculture to the country's GDP, export earnings and employment has been declining over time, this sector will remain the largest single contributor to income and employment in the near future. This sector will continue to play an important role in achieving self sufficiency in food production, in reducing rural poverty and fostering economic growth. It will also continue to be the major supplier of raw materials to a large number of industries in the country.

3.3.2 Growth of Agriculture

The annual growth rate of agricultural GDP has fluctuated frequently over the last 25 years (Figure 1.9). At the same time, the annual growth rate of total GDP has also fluctuated. The major fluctuations in growth over the years were mainly related to floods and droughts. For example, the growth rate of agriculture contracted in 1974-75, 1976-77, 1978-79, 1979-80, 1984-85, 1987-88 and in 1988-89 when there were floods and in 1981-82 and 1994-95 when there were droughts. On the other hand, the growth rate accelerated in 1973-74, 1975-76, 1977-78, 1980-81, 1989-90 and 1996-97 when nature was favourable and there was no flood or drought. The growth rate of total GDP was more responsive to the growth rate of agricultural GDP during the 1970s and early 1980s and after that period, its responsiveness declined as the share of agriculture to total GDP declined sharply.

The first phase of Bangladesh's policy regime was marked by achievement of self-sufficiency in agricultural production. The organizational structure for research and extension was expanded. Several new schemes were introduced to promote agricultural export and reduce imports. The prices of inputs were kept very low through generous support and subsidies. The status of agricultural graduates working in the government organizations was uplifted. A large number of new positions were created for agricultural graduates in different organizations to take the responsibility of providing timely delivery of inputs and extension

services to the farmers. Thus the public sector investment in agriculture significantly increased. Indeed, total agricultural production of the country responded very quickly to this support. Despite severe floods, the average agricultural production growth achieved during that period far exceeded the growth rate of the country's pre-liberation period.



The growth rate of agriculture was very high during the good years of the 1970s when farmers were at the initial stage of adopting new technology. For example, agriculture experienced a growth rate of 8.4 per cent in 1975-76 which was higher than the highest rate of growth achieved in the 1980s and 1990s. The growth potential seemed to have gradually slowed over time with an increase in the level of uptake of new technology.

Table 1.3
Trend Growth Rates of Real Total and Agricultural GDP, Bangladesh

Year	Growth rate (%)				
	Total GDP	Agricultural GDP	Industrial GDP	Construction GDP	Services GDP
1972/73-1996/97	3.79	1.99	3.83	6.89	5.12
1972/73-1977/78	3.35	2.37	4.95	0.20	4.89
1978/79-1989/90	3.60	1.95	2.44	6.51	5.12
1990/91-1996/97	4.56	1.67	6.94	5.09	6.04

Note: Trend growth rates have been computed by fitting semi-log functions to the data.

Source: BBS and author's calculation.

The average annual growth rates of agriculture for the three time phases are presented in Table 1.3. One can notice that the growth rate of agriculture has declined over time although the growth rates of other sectors increased. It appears that the growth of agriculture was affected by the occurrence of natural calamities and by withdrawal of subsidies. Other sectors were less vulnerable to natural calamities and were less affected by withdrawal of subsidies.

3.3.3 Development Expenditure in Agriculture

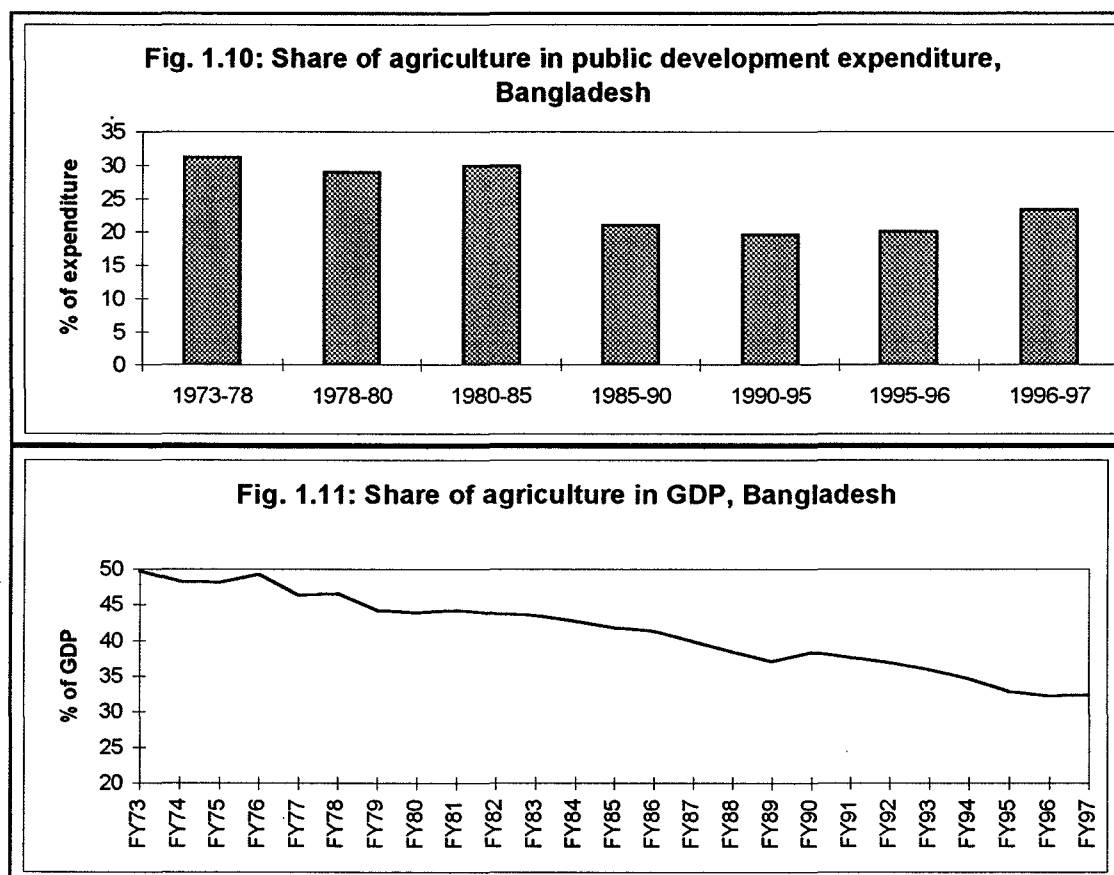
The share of agricultural sector to total public development expenditure (TPDE) was about 31% during the *First Five Year Plan* (FFYP) period. This declined to 21% in the *Third Five Year Plan* (TFYP) period and 19.6% in the *Fourth Five Year Plan* (FFYP) period (Table A-3). The expenditure in crops, livestock, forestry and fisheries sub-sectors declined from about 14% of TPDE to about 9% and further to 5.9% over the same periods. During the first few years of the post-liberation period, agricultural inputs were heavily subsidized as a result of which public expenditure in agriculture remained at the highest level. However, gradual withdrawal of subsidies from agricultural inputs and diversion of those resources to non-agricultural activities in later years contributed significantly to the decline in public sector expenditure in agriculture. As a result, the growth rate of GDP in agriculture and this sector's share to GDP experienced a sharp decline.

As per the United Nations' report, development expenditure in the poor countries has significantly increased in recent years. The World Bank has lent \$ 3.3 billion for health, education and nutrition in the past five years, compared with \$ 900 million in the previous decade. The Asian Development Bank over those five years has quadrupled the share of its lending in the developing countries. However, the aid money spent in the recipient country did not often assist those who were in need of it. Political/Military elites who dictated the policy of spending were more interested in "big armies, big projects, big subsidies for powerful interest groups and big Swiss bank accounts for themselves" for which the majority of the rural poor remained largely deprived (*The Economist*, 1995).

In Bangladesh, the total spending on development programmes increased to Taka 37,130.63 crore during the *Fourth Five Year Plan* period from Taka 2,074 crore during the *First Five*

Year Plan period. But the share of agriculture to total development spending declined to 19.6% from 31% over the same period.

Figures 1.10 and 1.11 show how the share of agriculture to public development expenditure and this sector's share in total GDP at constant 1984-85 prices declined over time. This trend was, however, reversed in 1996-97 and the country achieved a respectable growth rate in agriculture in that year. The election manifesto of the Bangladesh Awami League included promises to support agriculture and the present government kept its election pledges by a moderate increase in the allocations to agriculture. This has resulted in an upward move of the graph drawn for the sector's share in total public development expenditure (Figure 1.10) and a halt in the decline of the graph for the sector's share in total GDP (Figure 1.11).



In the budget for 1996-97, the present government increased the share of agriculture (crops, livestock, fisheries and forestry) in TPDE to 5.48% in 1996-97 from 5.34% in 1995-96. The share of irrigation and flood control including rural development sub-sectors has also been increased. In addition, an amount of Taka 10 million was kept apart in the ADP with the objective of providing subsidies on agricultural inputs. From this fund, allocations were to be made to the participating banks for subsidising 80 per cent of interest cost on credit for purchasing irrigation equipment and other agricultural machinery. Moreover, grants for the fuel cost of irrigation in drought affected areas was considered. Furthermore, proposals for sanction of grants for stabilizing output and input prices was also considered. Allocations were also made from this fund for the rehabilitation of farmers affected by natural calamities. As a whole, the share of agriculture to TPDE has increased to 23.29% in 1996-97 from 20.03% in 1995-96. This has encouraged investment and accelerated development in the agriculture sector. As a result, the growth rate in agriculture has significantly increased in 1996-97.

The budget for 1997-98 has again reduced the share of agriculture to 20.9% of TPDE. The subsidy on agricultural inputs has been reduced and the price of urea has been raised by Tk. 1,075 per ton. An announcement by Bangladesh Chemical Industries Corporation (BCIC) said that the price of urea fertilizer has been refixed at Tk. 4,800 per ton from Tk. 3,725 with effect from June 3, 1997. Now a bag of urea of 50 kilogram will cost Tk. 240 against Tk. 186.25 in the preceding year (Bangladesh Observer, 4 June, 1997). The government took the decision to raise the urea price in order to cut the subsidy and to arrest its smuggling to neighbouring countries where market prices tended to be higher than the official sale prices in Bangladesh. When the price of urea was higher in India and Myanmar than in Bangladesh, there was justification to raise the price of urea in the domestic market. This, however, did not preclude the government from providing subsidies on other inputs like TSP, DTWs and on interest for agricultural credit. Such inputs are unlikely to be smuggled out with little decline in prices or in the rate of interest. An increase in the price of urea without a corresponding decrease in prices of other inputs will raise the production cost of farmers. Whether this will have any negative effect on the production of crop agriculture is to be seen. At this stage, it can be noted that the farmers did not like the price hike of an essential agricultural input such as urea. While at field visits in Bangladesh, a cross section of farmers were heard to believe that the government has raised the price of fertilizers in order to pay higher salaries to her employees.⁸⁷

The present government has committed itself to progressively increase allocations for agriculture sector in the years ahead (Kibria, 1996). However, the magnitude of this increase in allocation is to be determined. The *Fifth Five Year Plan* has allocated 23% of the total development outlay to agriculture. This is higher than the expenditure made during the *Fourth Five Year Plan* period but much lower than that of the *First Five Year Plan* period. Bangladesh Agricultural Economists' Association (BAEA) proposed that at least 33 per cent of the total development expenditure should be devoted to the agricultural sector with 15 per cent allocation to crop, livestock, fisheries and forestry sub-sectors in order to achieve the expected growth rate in agriculture (BAEA, 1991).

3.3.4 Composition of Agricultural GDP

Bangladesh agriculture is dominated by crop agriculture (Figure 1.12: Data refers to 1996-97). Until the late 1980s, farmers were concentrating more on crop production, particularly on rice production. This was due to an incentive structure favouring rice production and the felt need for producing more rice to satisfy consumption. Many farmers were seen to have converted their fish producing areas into rice producing areas to achieve self-sufficiency in food-grain production. However, there has been a shift of preference in recent years that has led them to diversify their farm business.⁸⁸ Consequently, the share of crop sub-sector to total agricultural GDP has declined, while the shares of livestock, fisheries and forestry sub-sectors have increased (Table 1.4).

⁸⁷ A few farmers reacted angrily saying that the political parties promised to support agriculture before the elections, but they forget their promise after going to power.

⁸⁸ This time, a considerable number of paddy fields have been converted into shrimp farms in the southeast and southwest coastal regions.

Fig. 1.12: Composition of agricultural GDP, Bangladesh

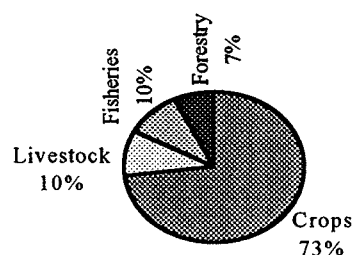


Table 1.4
Composition of Real Agricultural GDP (%), Bangladesh

Year	Crop	Livestock	Fisheries	Forestry
1972/73- 1977/78a/	77.06	7.54	9.93	5.47
1978/79- 1989/90a/	78.91	7.43	7.09	6.57
1990/91- 1996/97a/	75.99	8.44	8.56	7.01

a/ Indicates average of the time phase.

Source: BBS and author's calculation.

There are five main reasons that motivated farmers towards diversification. First, the problem of food deficit has not been so acute in recent years and farmers have been producing at near self-sufficiency level in good years. Second, crop agriculture is prone to natural calamities. Thus there is a risk of loss due to crop failure. So the farmers invest in alternative sources of production to minimise the risk. Third, with the withdrawal of subsidies from inputs, crop farming became less remunerative. Fourth, with the increase in propaganda through national news media, farmers have tended to produce more protein-rich food to enrich their diet. Finally, government policies have favoured production of milk, meat, eggs and fish to reduce the requirements of imports and increase the volume of exports. Thus, diversification of agriculture was promoted.

Farming in Bangladesh is characterised by small family farms. The average size of farms is 2.26 acres. Per capita availability of cultivated land is 0.2 acres, the lowest in the world. This is one of the main reasons why commercialisation and specialisation of farming, particularly of crop farming, was not possible in the past. Farmers have been operating mixed farms to satisfy their consumption needs. The recent tendency of diversification would mean expansion of the mixed farming system that would lead to higher income, employment and growth in future.

The growth of the agricultural sector still depends largely on the growth of the crop sector. As mentioned earlier, due to frequent natural calamities and gradual withdrawal of subsidies, the growth rate of crop agriculture has declined over time, while the growth rate of non-crop agriculture has increased in recent years (Table 1.5). The livestock and fisheries sub-sectors

have experienced a high growth of 7.1 and 7.5 per cent respectively during the third phase due to expansion of the private sector.

Table 1.5
Trend Growth Rates of Real Agricultural GDP, Bangladesh

Year	Growth rate (%)			
	Crops	Livestock	Fisheries	Forestry
1972/73-1996/97	1.89	2.56	1.55	3.20
1972/73-1977/78	2.57	2.01	0.24	-0.51
1978/79-1989/90	1.92	1.29	2.36	2.57
1990/91-1996/97	0.22	7.14	7.52	3.73

Note: Trend growth rates have been computed by fitting semi-log functions to the data.

Source: BBS and author's calculation.

3.3.5 Crop Sub-Sector

The share of crops to agricultural GDP is 73 per cent. Rice is the main crop of Bangladesh (the staple food of Bangladeshi people) grown on 75 per cent of cultivated land.⁸⁹ Wheat and some minor food-grain crops are grown on 5.2 and 0.7 per cent of cropped acreage. Pulses, jute, oilseeds and other crops are grown on the rest of the land. The share of rice in total cropped acreage has declined in the 1990s but the share of wheat has increased. The share of some minor food-grain crops has declined over time due to lack of competitiveness. Among rice, the share of high yielding varieties (HYVs) has sharply increased, while the share of local varieties has declined. It appears that the farmers have shifted to more competitive crops over time.

Food-grain crops

The production of food-grains increased from 10.2 million tons in 1972-73 to 20.3 million tons in 1996-97. The annual rate of growth of food-grains production increased by 2.58% over the 25 years. But the trend growth rate has declined from 4.13% in the first phase to 2.93% in the second phase and further to 0.44% in the third phase. The reason for this observed decline in growth of production was the decline in growth of area and yield. Nevertheless, the average per capita availability of food-grains from domestic production has increased over time⁹⁰ due to an increase in total production⁹¹ and a decline in growth rate of population.⁹² Consequently, the magnitude of imports of food-grains has declined during the third phase (Figure 1.13). However, in a country of frequent floods and other natural

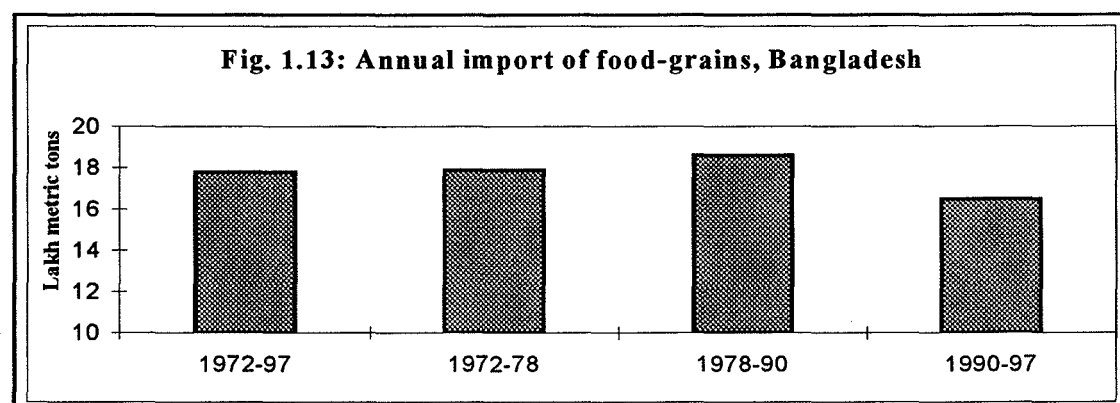
⁸⁹ The share of rice to total cropped area has declined from 79.7 per cent in 1977-78 to 74.7 per cent in 1996-97 but the share of wheat increased from 1.5 per cent to 5.2 per cent over the same period (Table A-4).

⁹⁰ The average daily per capita availability of food-grains from domestic production increased from 368 grams in the first phase to 399 grams in the second phase and further to 404 grams in the third phase (Table A-6).

⁹¹ This was augmented by a significant increase in yield rates of rice and wheat over time (Table A-7).

⁹² The growth rate of population was 2.36% during the first phase. This has reduced to 2% during the second and the third phases.

calamities, the observed decline in food-grain imports is unlikely to be sustained. The quantity of food-grains imported in 1997-98 (19.87 lakh tons) has already exceeded the average level (16.5) for 1990/91-1996/97. This may increase much further in 1998-99 due to the severe floods in 1998.



The trend rate of growth of rice production increased by 2.36% over the 25 years (Table A-5). The growth rate has declined from 3.8 per cent in the first phase to 2.59 per cent in the second phase and further to 0.07 per cent in the third phase. The rate of increase in both acreage and yield has declined over time. The total production of rice declined by 1.2 million tons in 1994-95 compared to the previous year due to drought and a decline in irrigation coverage under minor irrigation. A serious fertiliser crisis during the Boro season⁹³ has also contributed to the fall in production. With a good Boro harvest in 1995-96, the total production of rice increased to 17.69 million tons which was still one of the lowest rice crop harvested during the 1990's. However, the total rice production reached its peak at 18.82 million tons in 1996-97 mainly due to good weather, and stability in the input market.

There was a significant growth in the production of wheat (10%) over the last 25 years. Its growth rate declined from 25.5% in the first phase to 3.8% in the second phase and then increased to 6.0% in the third phase. The production of minor grains has sharply declined over the third phase.

Other crops

Due to the priority given to the production of food-grain crops, particularly to rice, the acreage and production of non-cereal crops began to decline after the early 1980s. It was then felt necessary to give special attention to some selected non-cereal crops, such as tubers, pulses and oils for diversified consumption as well as import substitution. Consequently, the Crop Diversification Project (CDP) was undertaken jointly by the Government of Bangladesh, the Ministry of Development Cooperation of the Government of Netherlands, and the Canadian International Development Agency (CIDA). The project had three implementing agencies namely, Department of Agricultural Extension (DAE), Department of Agricultural Marketing (DAM) and Bangladesh Agricultural Research Institute (BARI). A number of crops included in the programme were:

⁹³ In that time, a number of farmers died of police firing while they were protesting against the fertiliser scarcity and price hike. An estimate puts the death toll at 18. Many people interpreted this crisis as an outcome of deregulation in fertiliser marketing. For a detailed review of fertiliser pricing and distribution policies, see (CPD, 1995; 1997).

Tubers : white potato, sweet potato, aroid;
Oilseeds : mustard and rapeseed, groundnut, sesame, sunflower, soybean;
Pulses : lentil, blackgram, mugbean, chickpea, fieldpea, falon and arhar.

The effect of CDP on production of some minor crops was positive. There was a modest increase in potato production which was attributed to growth in acreage and yield (Table 1.6). The production of pulses and oilseeds also increased mainly due to their yield improvement in the early and mid nineties. These crops gave significantly higher yield in 130 CDP thanas (CDP and DAE, 1995) than their national average yield. Nevertheless, the growth in total production of these crops remained very insignificant due to limited extension of those crops and a decline in acreage.

Table 1.6
Trend Growth Rates in Area, Production and Yield of Non-Cereal Crops, Bangladesh

Crops	1983/84-1989/90			1990/91-1996/97		
	Area	Yield	Production	Area	Yield	Production
Pulses	-1.44	-5.89	-7.33	-0.84	1.19	0.35
Oilseeds	-1.22	-4.07	-5.29	-0.29	0.68	0.39
Vegetables	2.48	-0.84	1.64	2.75	0.50	3.25
Tubers	1.07	-1.90	-0.31	1.20	1.70	2.90
Spices	-0.18	1.21	1.02	-.32	0.09	-0.23
Tea	1.32	-2.27	-0.95	0.10	2.67	2.76
Tobacco	-3.55	1.29	-2.26	-1.11	3.47	2.36
Jute	-6.71	2.27	-4.44	-2.88	0.22	-2.66
Sugarcane	1.07	-1.90	-0.83	-1.49	0.96	-0.53
Fruits	1.63	-1.30	0.33	1.46	-0.91	0.55

Note: Growth rates have been computed by fitting semi-logarithmic trend lines.

Source: BBS and author's calculations.

Intensive farm practices

The increase in total production of food-grains over the last 25 years can be explained by a higher level of adoption of intensive farm practices in Bangladesh. One can notice from Table 1.7 that the intensity of cropping, adoption of HYVs, irrigation coverage and the use of chemical fertilisers have increased over time. It means that the recent liberalization of input marketing and withdrawal of subsidies did not restrict farmers from adopting yield augmenting intensive farm practices in Bangladesh. However, the rate of increase in adoption of new farm practices has slowed down in recent years due to withdrawal of input subsidies.

Table 1.7
Increase of Intensive Farm Practices Over Time, Bangladesh

Year	Cropping intensity ^{1/} (%)	HYV coverage (% of cropped acreage) ^{2/}	Irrigation coverage (% of cropped acreage) ^{2/}	Use of chemical fertilizers (Kg/acre) ^{3/}
1972-73	144.95	11.14	10.59 (9.7)	14.37
1977-78	150.74	16.59	14.81 (11.86)	21.16
1989-90	168.42	44.49	25.32 (20.85)	57.29
1996-97	185.00	56.98	36.93 (29.42)	91.13

1/ Cropping intensity= $\frac{\text{Total cropped area}}{\text{Net sown area}} \times 100$

2/ Indicates food-grain crops only

3/ Indicates total cropped area

*Bracketed figures indicate percentage of total cropped area

Source: BBS and author's calculation

Table 1.8
Average Annual Growth Rates of Gross Cropped Area, HYV Area, Irrigated Area, and Fertilizer Use, Bangladesh

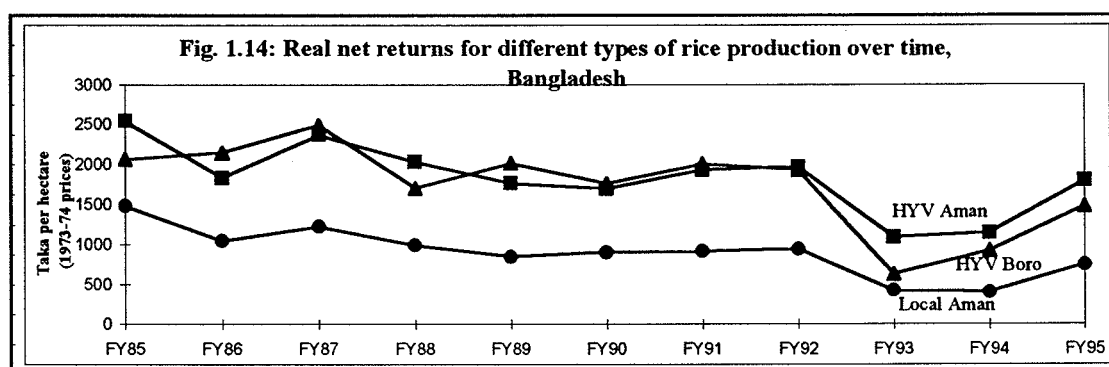
Year	Growth rate (%)			
	Gross cropped area	Area under HYV	Irrigated area	Fertilizer use
1972/73-1996/97	0.43	6.57	5.20	7.78
1972/73-1977/78	0.53	6.13	5.38	6.99
1978/79-1989/90	0.89	8.63	5.62	9.20
1990/91-1996/97	-0.44	3.39	4.31	6.02

Note: Growth rates have been computed using the formula for annual percentage compound growth (continuous).

Source: BBS and author's calculation.

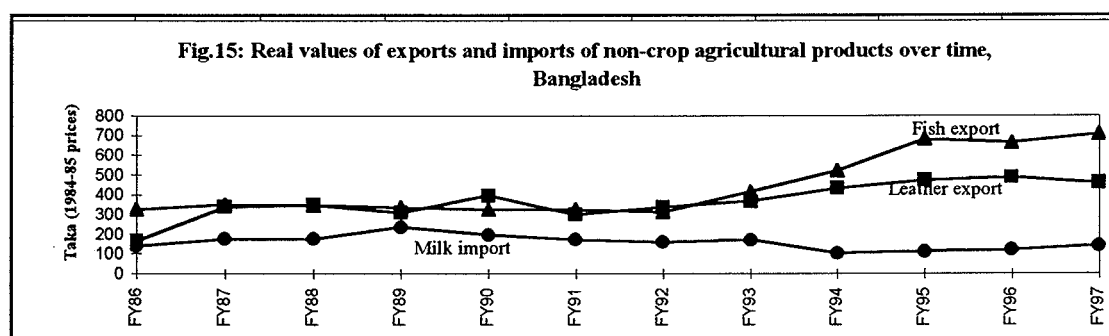
Table 1.8 shows the average annual growth rates of selected indicators that determine the level of adoption of intensive farm practices in crop agriculture. It can be noticed that there was a sharp increase in adoption of new farm technologies during the initial phase of liberalization (second phase) when inputs marketing was liberalised but subsidies were still retained in a lower proportion on some important inputs such as deep tube well and fertilisers. But after the complete withdrawal of subsidies during the early 1990s, the growth rates in adoption of new technologies declined followed by a decline in the growth rate of production. The financial profitability of crops also exhibited a declining trend that seemed to have reversed in

1994-95 due to an increase in output prices following a sharp fall in production (Figure 1.14).⁹⁴



3.3.6 Non-crop Agriculture

With the decline in profitability of crop agriculture in the early 1990s, farmers have tended to shift their emphasis to non-crop agriculture. Consequently, the number of commercial dairy and poultry farms has increased significantly in the private sector (Alam, 1996). At the same time, the intensive cultivation of fish and shrimp also increased throughout the country under private initiative. As a result, total production and annual growth rate of livestock and fisheries products increased in recent years. Also, per capita availability of milk, meat, eggs and fish increased. During this period, government raised its development budget for the non-crop sector⁹⁵ and geared up productivity-enhancing programmes for the farmers.⁹⁶



Bangladesh traditionally imports milk, and exports leather and frozen shrimp. Due to the increase in domestic production, import of milk declined, while export of leather, fish and shrimp increased (Figure 1.15). Very recently, import duty on powdered milk was significantly reduced, which has promoted import of milk. On the other hand, export of leather declined due to a weakening of global demand for Bangladesh products and a continuing decline in the supply of high grade hides from Bangladesh.

⁹⁴ For further evidence, see CPD (1995,1997).

⁹⁵ The development budget for livestock and fisheries increased from 2.4% in 1986-90 to 2.9 per cent in 1990-95 and that of forestry from 1.6% to 2.0% over the same period (Alam, 1995).

⁹⁶ The former Minister for Fisheries and Livestock Mr. Abdullah Al Noman gave a special drive to expand production oriented programmes in the public sector and to promote establishment of new commercial farms in the private sector. This resulted in a significantly higher production and robust growth in the Fisheries and Livestock sector.

3.3.7 Agricultural Exports and Imports

Bangladesh has been liberalising its trade regime since the 1980s. It reduced quantitative restrictions and lowered the rate of tariff on imports significantly in the early 1990s. As a result, the volume of total exports and imports has dramatically increased. However, the proportions of agricultural exports and imports to total value of exports and imports have significantly declined (Figure 1.16).⁹⁷

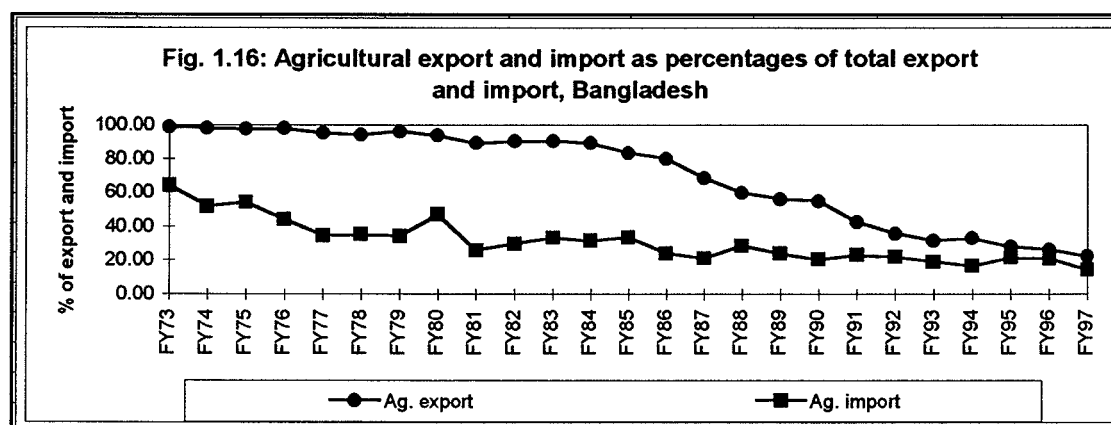


Table 1.9 shows the trend rate of growth of agricultural exports and imports for the last 25 years. It can be noticed that the growth rates of agricultural exports and imports have improved over the time phases, but the growth of agricultural imports has always exceeded the growth of agricultural exports. The sluggish growth of agricultural exports was attributed to a decline in traditional export of jute. Bangladesh has, however, experienced a robust growth in the total value of exports, mainly due to a sharp increase in export earnings by the ready made garments.

The opening up of trade regime has accelerated the growth of imports. More than two thirds of those imports were inputs into the productive sector and consisted of basic raw materials, intermediate inputs and capital goods. Thus a rapid increase in imports has virtually helped the growth of country's exports.

⁹⁷ The proportion of agricultural exports to total value of exports declined from 98.9 per cent in 1972-73 to 22.2 per cent in 1996-97 and the proportion of agricultural imports to total value of imports declined from 64.1 per cent to 14.3 per cent over the same period (Table A-10).

Table 1.9
Trend Growth Rates of Real Value of Agricultural Exports and Imports Compared to
Total Real Value of Exports and Imports, Bangladesh

Year	Growth rate (%)			
	Agricultural export	Agricultural import	Total export	Total import
1972/73-1996/97	-0.84	-1.34	5.57	3.47
1972/73-1977/78	-3.34	-12.53	-1.22	0.10
1978/79-1989/90	-3.11	-2.36	3.37	4.48
1990/91-1996/97	4.16	6.44	13.81	11.36

Note: Growth rates have been computed by fitting semi-logarithmic trend lines.

Source: Export Promotion Bureau, Office of the Chief Controller of Export and Import, and author's calculations.

3.8.8 Agricultural Prices and Wages

For about a decade after independence, prices of agricultural commodities increased at a slower rate than those of the industrial commodities. The terms of exchange between agriculture and industry was favourable to the industrial sector (Table 1.10). However, in the late eighties and early nineties, prices of agricultural commodities grew faster than those of industries. As a result, the terms of exchange became favourable to agricultural sector. Nevertheless, the early 1990s have witnessed a low rise in commodity prices for both sectors and the growth in prices of agricultural commodities was lower than that of industrial commodities due to a decline in prices of food-grains.

The index of real wages in agriculture declined during the 1970s and fell down to 86 in 1981-82 (Table 1.11). The real wage index recovered in the 1980s and 1990s and stood at 104 in 1995-96. The growth of nominal wage index was faster in the 1970s but slowed down in latter years as inflation gradually came under control during the 1980s and 1990s. Compared to other sectors of the economy, agriculture has witnessed the lowest growth rate in wages over time.

Table 1.10
Index of Prices of Agricultural and Industrial Commodities
(1969-70=100), Bangladesh

Year	Agriculture		Industry		Terms of exchange between agriculture and industry (%)
	Index	% change	Index	% change	
1969-70	100	-	100	-	100
1981-82	581	481.0	667	567.0	87.1
1989-90	1276	119.6	1118	67.6	114.1
1995-96	1606	25.9	1459	26.4	110.1

Source: BBS and author's calculation.

Table 1.11
Index of Wages in the Agricultural Sector (1969-70=100), Bangladesh

Year	Nominal wage		Real wage	
	Index	% change	Index	% change
1969-70	100	-	100	-
1981-82	567	467.0	86	-14.0
1989-90	1245	119.6	96	11.6
1995-96	1738	39.6	104	8.3

Source: BBS and author's calculation.

3.3.9 Agricultural Extension

The last 25 years have witnessed several changes in the agricultural extension system. Historically, the Directorate of Agriculture was responsible for all extension services in the country. During the early 1970s, more emphasis was given to raising farm production in order to reduce dependence on food imports and increase agricultural exports. A number of new schemes and projects were developed to intensify agricultural production. The traditional extension work of the Directorate of Agriculture was distributed to several specialised Directorates, agencies and Boards. They include, among others, Directorate of Agriculture (Extension and management), Directorate of Agriculture (Jute production), Directorate of Agriculture (Plant Protection), Horticulture Development Board, Tobacco Development Board, Cotton Development Board and so on. Each of these organisations had the mandate to work independently with their clients. In the course of time it was realised that the narrow specialisation in the delivery of extension services had resulted in duplication of work and missallocation of scarce resources. At the field level, they confused farmers and often wasted their time. At the top, there was a problem in coordination. Therefore, a reorganisation in the early 1980s saw the merger of most of the independent extension organisations into the Department of Agricultural Extension (DAE).

Initially, the approach for agricultural extension was dominated by a farmer to farmer direct contact method. However, due to a large number of small farmers to be covered by an extension agent and lack of appropriate infrastructure supporting the communication system, the traditional approach of agricultural extension had to be changed. A new concept of

training and visit (T & V) system was introduced in the late 1970s. The World Bank in collaboration with FAO made a large investment through its aid programme to introduce the system. Initiated in the north-west region of the country in 1978-79, the T&V system was subsequently expanded in the late 1982 to cover the entire country.

The system comprised the formulation of location specific impact points, the dissemination of extension messages through contact farmers, regular fortnightly and monthly training to Block Supervisors (BS), Subject Matter Specialists (SMS) and Subject Matter Officers (SMO), and the monitoring of the field extension activities. However, the system did not function satisfactorily due to various agro-ecological and socio-economic factors. Several studies⁹⁸ have indicated that the majority of the farmers did not receive the messages of extension workers and that the BSs were biased towards educated and large farmers. The contact farmers hardly took any initiative to serve as impact points to other farmers.⁹⁹

Following the termination of E & RP-II, the DAE has been supported by the World Bank and ODA through the Agricultural Support Services Project (ASSP 1992-1998). The project was launched in 1992-93 in some selected areas. By 1997, it covered the whole country. The project aims at improving the extension system to effectively deliver services for increased agricultural sector productivity. The main components of the project are:

- working with groups of farmers instead of individual Contract Farmers;
- wider use of appropriate extension methods, such as farm visits, media, training, demonstration and fairs;
- local level planning of extension programmes based on farmers problems using participatory methods and techniques such as Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA) and Problem Census (PC);
- advising farmers on all aspects of their farming system including crops, livestock, fisheries and trees; and
- replacement of DTCs and RTCCs by DEPCs and ATCs.

It appears from very recent reports that the ASSP has made good progress with almost all its components for the last two years (World Bank, 1997c). Whilst some progress have been made in working with groups, using extension methods and developing participatory approaches to extension, there are severe lackings in the adoption of farming system approaches to extension and in coordination of extension services among all providers.

Currently a large number of government and non-government organizations are involved in the provision of some form of extension services in different sub-sectors of agriculture in Bangladesh. They include government agencies, such as the Department of Agricultural Extension (DAE), Bangladesh Rural Development Board (BRDB), Bangladesh Water Development Board (BWDB), Bangladesh Agricultural Development Corporation (BADC), Bangladesh Chemical Industries Corporation (BCIC), Department of Livestock Services (DLS), Department of Fisheries (DOF), Bangladesh Fisheries Development Corporation (BFDC) and the Forest Department (FD). There are also many non-government organizations (for example BRAC, Proshika, Swanirvar Bangladesh, RDRS etc.), commercial traders and input suppliers operating in rural areas for agricultural development. The activities of these

⁹⁸ For example, see Contado and Alam (1985) and Mahtab (1992).

⁹⁹ A detailed review of the extension and research system in Bangladesh made by this author is available in Professor Rehman Sobhan's edited CPD (1998).

Departments, Corporations and private organizations have been monitored, evaluated and administered by several ministries that often made the task of coordination difficult.

A New Agricultural Extension Policy (NAEP) has been formulated very recently and approved by the government. The goal of the NAEP is to encourage the various partners and agencies within the national agricultural extension system to provide efficient and effective services which complement and reinforce each other, in an effort to increase the efficiency and productivity of agriculture in Bangladesh. Some of the components of the policy almost overlap with those of the ASSP. The key components of the policy are:

- Extension support to all categories of farmers;
- Efficient extension services;
- Decentralisation;
- Demand-led extension;
- Working with groups of all kinds;
- Strengthened extension-research linkage;
- Training of extension personnel;
- Appropriate extension methodology;
- Integrated extension support to farmers;
- Co-ordinated extension activities; and
- Integrated environmental support (MOA, 1996).

All the above components, if properly implemented, will make the extension system effective and dynamic. This will, however, require a total restructuring of the entire system.

The Agricultural Extension Policy has categorically mentioned that “different agencies working in the same area often have complementary expertise and that where this is brought together the effectiveness of all agencies in their service to the nation’s farmers can be enhanced”. As such, all offices related to agricultural development (for example, DAE, DLS, DOF, FD, and BRDB) could be brought under one complex at the thana level. This would ensure sharing of scarce resources and facilitate farmers to get the required inputs and advices from one place.

3.3.10 Agricultural Research

During the pre-liberation era, agricultural research was primarily handled by government departments responsible for agricultural development. After independence, however, several autonomous organisations have been established for undertaking research on crops, fisheries and livestock. There are seven such institutes in the country, namely Bangladesh Agricultural Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Bangladesh Jute Research Institute (BJRI), Bangladesh Sugarcane Research Institute (BSRI), Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Livestock Research Institute (BLRI) and Fisheries Research Institute (FRI). At the top of them, there is the Bangladesh Agricultural Research Council (BARC) for coordination of research among these institutes and other institutions and organizations carrying out research on agriculture. The arguments in favour of delegating operational responsibilities for research to these autonomous organisations and the Council were:

- involvement of researchers, planners, extension officers, farmers, agro-industrialists and politicians through a governing body;
- simplification of bureaucratic controls and procedures;
- management by objectives; and
- provision of more attractive terms and conditions of service for staff.

The purpose was to free the research service from the constraints of the larger government's bureaucracy of civil service and hand over much of the managerial responsibility to the scientists themselves. It was recognized that research requires a different kind of administrative culture and researchers need incentives for their devotion to innovation.

In practice, the above purposes were never fully served and there was no evidence to indicate that routine decision making had been adequately decentralized. A report prepared by ISNAR (1990) on agricultural research in Bangladesh stated that "the decision making processes have remained extremely centralised and many of the benefits that have resulted elsewhere from the transfer of administrative responsibility to the scientific research service have not been achieved".

The Bangladesh Forest Research Institute (BFRI) and Soil Resource Development Institute (SRDI) are still handled directly by the government while the Bangladesh Tea Research Institute (BTRI) is controlled by the Tea Board.

The national agricultural research system (NARS) in Bangladesh is composed of 10 research institutes with mandates in research on crops, livestock, fisheries, forestry and agricultural economics. Bangladesh Agricultural Research Council (BARC) is the apex organization of the NARS coordinating research activities in four government ministries (Agriculture, Fisheries and Livestock, Environment and Forest, and Commerce). There are four single commodity institutes that conduct research on jute, rice, sugarcane, and tea and one multi-commodity institute for research on wheat, potatoes, fruits, oilseeds and vegetables. There are other institutes for research on fisheries, livestock, nuclear agriculture, and soil resources. These institutes have regional research stations and sub-stations decentralizing facilities and personnel for specific commodities and locations. Several other research and educational institutes which are not part of the NARS also conduct research in some fields of agricultural development. They include Bangladesh Academy of Rural Development (Comilla), Rural Development academy Bogra, Bangladesh Institute of Development studies, Bangladesh Council of Scientific and Industrial Research and seven universities, most notably the Bangladesh Agricultural university. These institutes are linked to four other ministries (Education, Local Government and Rural Development, Planning, and Science and Technology) having cooperation and liaison with BARC.

The BARC is at the apex of the system serving as an umbrella under which the entire research effort in agriculture is coordinated. The council was created in 1973 and its charter was amended twice in 1976 and 1988 to give it more flexibility and greater authority to carry out functions as a national apex body in agricultural research. However, its performance has been far from satisfactory as was reported by ISNAR (1990) and Chowdhury (1992). The underlined shortcomings were:

- due to conflicting ordinances, BARC has failed to exercise its authority over the NARS institutes;
- BARCs governing council limits its focus to the secretariat because the research institutes have their own governing bodies;

- several institutes do not want to be coordinated, monitored, or evaluated by BARC, to submit their research proposals to it for scrutiny or to depend on it for funds;
- some donors have contributed to BARC's inability to manage the system by channeling funds directly to institutes, thus defeating the objective of having them screened by BARC; and
- the role of BARC Member-Directors in liaison with the institutes was inadequate.

The Charter of BARC including its 10 scheduled institutes has been again amended in August 1996 to give it more authority of enforcing coordination over the NARS. The Board of Governors of different institutes is replaced by the Board of Management and they are made liable to abide by all directions issued by the Governing Council of BARC. However, this may not help improve coordination among all the institutes because the Management Boards of different institutes under the Ministry of Agriculture is headed by respective heads of the institutes but the management Board of other institutes under the Ministry of Fisheries and Livestock are headed by the respective Minister. Moreover, BFRI and SRDI does not have any Management Board and they are completely under the control of the government. It was initially proposed to take all the institutes working on agricultural research under the Ministry of Agriculture. One Ministry did not agree to the proposal. This might have resulted in a weaker coordination.

The main bottleneck to agricultural research in Bangladesh is the lack of operational funds (ISNAR, 1990). International Agricultural Agencies recommend that at least 1% of agricultural GDP be invested in research for agricultural development in Asian countries (ISNAR, 1992). In Bangladesh, the magnitude of investment in research on agriculture was only 0.4% of agricultural GDP in the recent past. It has been revealed from an analysis (Mahtab, 1992) that only 24% of the total budget of NARS institutes was available for research. The analysis shows further that in BARI where 35% of the NARS scientists have been working, only 7% of their budget was available for actual research activities. The funds available for travel and transport was so small (1.36%) that on-farm research of the institute had to be severely curtailed. The situation deteriorated fast after 1992 when the ARP - II funded by the World Bank was completed and preferential treatment for agricultural research under the PL-480 (USAID) fund was withdrawn.

A new project titled "Agricultural Research Management Project" (ARMP) has been launched in 1996-97 to rehabilitate the NARS both administratively and financially. The cost of the project is US\$ 59.1 million. The project is being funded by the World Bank for five years. One year of the project has ended in June 1997 with very little success in utilization of funds. Only 22 per cent of the allocated funds could be utilized by the participating ARIs in 1996-97. Experiences with fund utilization suggest that the disbursement procedure of funds is cumbersome and bureaucratic tendencies inhibit the progress of the project. The funds allocated for contract research was not even touched until August 1997.¹⁰⁰ Such problems were also inherent with the IDA funded ARP-II. It was observed that "only about 60 per cent of the available contract funds were spent, of which half was to complement current research, not to support additional work. Much of the work funded repeated earlier work, little was interdisciplinary, and there were long delays in processing requests" (World Bank, 1996).

¹⁰⁰ The delay in the utilisation of funds was also observed in the World Bank supported National Agriculture and Livestock Research Project implemented in the early 1990s in Tanzania. Carney (1998) reported that such delays were due to a slow project review process. Fund disbursement technicalities and undue bureaucracy also contributed to the delay in project implementation. Consequently, the disbursement of fund was well below expectation.

A criticism to such donor driven projects is that the donors provide virtually all capital expenditures and most non-salary operational costs. The dependence on external funds causes uncertainty for agricultural research institutes (ARIs), whose personnel costs are entirely paid through the development budget. When donor funding ceases, very little is left for operation and maintenance.

The NARS institutes have more than 1300 scientists working on a permanent basis. Moreover, there are other scientists working for development projects on a temporary basis. Among developing countries world wide, the NARS in Bangladesh ranks about tenth in size. But their quality is not very high. Even in most recent years, one-fourth of the scientists under the NARS have only a B.Sc. degree. The bulk of the NARS scientists have M.Sc. degrees and only about 13 per cent have Ph.Ds. Further recruitment to replace losses and fill the approved positions has to be made in the M.Sc. and Ph.D. categories. This will upgrade the scientific capacity of the system. The ISNAR (1990) reported that the research system in Bangladesh "is already very large and the deficiencies in its performance indicate quite clearly that its development in the immediate future needs to concentrate more on quality and managerial competence than on further increase in size". NARS institutes are autonomous organizations, but they follow very closely GOB personnel and administrative procedures. The same review made by the ISNAR (1990) underlined some basic human resource management issues that need to be addressed soon. Prominent among these are the following:

- lack of recognising the important contribution made by those who have been trained overseas, in terms of research standards and ideas as a result of an international exposure;
- professional isolation from events elsewhere in the world;
- the limited mobility of scientists within the system, between institutes;
- the need for development of career structures, promotion opportunities and paths; and
- the lack of consideration given to outposted staff.

There is a lack of incentive for scientists working on different research stations. Many of them do not get promotion even after obtaining a Ph.D. and serving an institute for more than 10 years. This is simply because they do not have any higher position vacant for promotion. To overcome the problem, World Bank (1996) proposed for in-situ promotion in the research system. Suggestions were there to find out means for cash or other forms of professional incentives for posting to outstations (regional stations/sub-stations). There have been several discussions and repeated decisions on providing incentives to deserving researchers but such decisions are yet to be implemented.

The need for research outside formal experimental stations has been increasingly recognized to understand local ecological and socio-economic requirements and to test the end-products of on-station research under farmers' conditions. Consequently, sub-stations have been established by different mono crop and commodity research institutes in different locations. Currently there are over 60 regional stations and sub-stations, in addition to the 10 headquarters sites. Due to lack of proper planning, these stations and sub-stations are not evenly distributed over different regions and agro-ecological zones. The country is well covered for applied and adaptive research on food and cash crops. Research on fruit-trees are, however, not adequately covered. Regional coverage of livestock, fisheries and forestry is also inadequate. It was reported by USAID (1989) that the stations belonging to different institutes vary greatly in their size, in terms of the land area they have, in the quality of their buildings, their vehicles and equipment, and the number and disciplinary composition of their staff. There is hardly any sharing of resources among sub-stations of different institutes. The consequences have been detrimental to the establishment of an efficient, well managed and cost-effective system of decentralized agricultural research in Bangladesh (ISNAR, 1990).

It was necessary that all research sites on crops, livestock, fisheries, horticulture, forestry and agricultural economics were established under one complex at regional stations and sub-stations so that duplication of efforts could be avoided and scarce resources were properly shared. This would help farmers to get all messages on improved technology from one point.

Despite a number of research organizations, regional stations and sub-stations, and a large network of extension organisations, research extension linkage is regarded as very poor in Bangladesh. There are a number of committees at national, regional, district and thana levels for effective transfer of technologies to the farmers but those committees did not seem to have functioned properly. It appeared that developing a shared goal is very important for successful collaboration between research and extension. An integrated research-extension system might be evolved that would help develop a shared goal in the days to come.

3.4 Poverty and Inequality

Different estimates show that the incidence of poverty in Bangladesh has declined in the 1980s and 1990s (Alam, 1993). Estimates based on per capita direct calorie intake (DCI) method suggest that the proportion of population living below the poverty line has come down to less than 48 per cent in recent years from about 92 per cent in the early 1970s (Table 1.12).¹⁰¹ This improvement can be explained by a reduction in inflation, an increase in per capita availability of food-grains and target group oriented programmes of governmental and non-governmental organisations to generate employment and income for the poor (Alam, 1988a).

An estimate based on cost of basic needs (CBN) method indicate that the incidence of poverty in Bangladesh is currently 53 per cent using the upper poverty line (BBS, 1998).¹⁰² This figure reduces to 36 per cent using the lower poverty line.¹⁰³ The percentage of population living below the poverty line¹⁰⁴ remains higher in rural areas¹⁰⁵ than in urban areas.¹⁰⁶ There has been a reduction in the incidence of poverty in most recent years,¹⁰⁷ but the magnitude of the decline was moderate due to an increase in income inequality. A debate on the extent of recent poverty reduction has been continuing among the academics in Bangladesh.

The view that the incidence of poverty has been significantly reduced over the 1980s and early 1990s is supported by the fact that there has been a marked improvement in the magnitude of social indicators. It is evident from data provided through different sources (GOB, 1995; 1997) that public activities in social sectors has expanded in recent years aiming at poverty alleviation and human resource development. These sectors include education, health and family planning, and women in development. As a result, the literacy rate, gross primary enrolment rate and life expectancy at birth have increased while infant mortality and child

¹⁰¹ Nutrition surveys of Bangladesh carried out by the Institute of Nutrition and Food Science of Dhaka University report a decline in daily per capita food-grain intake in rural Bangladesh from 537 grams in 1962-64 to 523 grams in 1975-76, 488 grams in 1981-82 and 452 grams in 1995-96 (Jahan, 1996). This is a contradictory evidence. One cannot arrive at a conclusion on the trend of per capita food intake from such infrequent point estimates when there are wide variations in food-grains production by year, season and region (CPD, 1997).

¹⁰² A household with less than 2122 kcal per capita per day.

¹⁰³ A household with per capita intake of less than 1805 kcal per day.

¹⁰⁴ Refers to the CBN method.

¹⁰⁵ 56.7% using the upper poverty line and 39.8% using the lower poverty line.

¹⁰⁶ 35% using the upper poverty line and 14.3% using the lower poverty line.

¹⁰⁷ The estimate is based on CBN method. For evidence, see World Bank and Asian Development Bank (1998).

malnutrition rates have declined. At the same time, the population growth rate has declined due to an increase in the use of contraceptives. Women empowerment was enhanced with their direct involvement in income generating activities (Alam, 1997).

Table 1.12
Incidence of Poverty and Income Inequality Over Time, Bangladesh

Year	Per cent of population below the poverty line ^{1/}			Gini coefficient of income distribution		
	Rural	Urban	National	Rural	Urban	National
1973-74	93.03	81.16	91.84	0.35	0.38	0.36
1983-84	56.97	66.36	58.05	0.35	0.37	0.36
1991-92	47.61	46.58	47.47	0.36	0.40	0.39
1995-96	47.11	49.67	47.53	0.38	0.44	0.43

^{1/} On the basis of daily calorie intake per person below 2122 calories.

Source: Household Expenditure Surveys, BBS.

The impact of recent economic reform on the distribution of income is negative. It can be noticed from Table 1.12 that the magnitude of income inequality, as measured by the Gini coefficient, has increased over time. It appears that an increase in the rate of economic growth, in a society of unequal distribution of assets and productive power, has resulted in further inequality in the distribution of income (Alam, 1988b). But as the absolute level of income increased, the magnitude of poverty has declined. A negative relationship seemed to have operated between income inequality and poverty when the magnitude of poverty started to diminish through the conventional trickle down process. The evidence tends to suggest that poverty is not always reinforced by income inequality. In fact, the problem of poverty in Bangladesh is directly related to its low level of per capita income. A high level of income with low level of inequality will ensure social welfare in the society.

CHAPTER FOUR

IMPACT OF REFORM IN NEW ZEALAND

4.1 Three Time Phases

The last 17 years have witnessed a series of policy changes in New Zealand. The policy measures of the early 1980s were designed to intensify state intervention in the economy, while those of the late 1980s and early 1990s were formulated to liberalise the economy from state activism. There were three distinct phases of policy environment over the last few decades.

The first one, starting from the early 1930s and ending in June 1984, encouraged widespread state activism to foster economic growth and generate employment. The second one was the reform phase when subsidies, tax incentives, regulations and protective barriers, that tended to distort market signals, have either been removed or been reduced with a view to increase real income and reduce unemployment. The third phase is the post reform phase that started from July 1994, in which the economy is expected to generate sustainable growth with the creation of more employment.

Pre-reform policies were based on Keynesian interventionism that led to a marked expansion of public investment through the operation of 'think big' projects to achieve the objective of full employment. Over a long period, the industrial sector was protected and agriculture was heavily subsidised. As a result, budget deficits increased followed by a marked increase in public indebtedness. At the same time the inflation rate increased rapidly which was artificially kept at a low level in 1983 and 1984 through a freeze on prices and wages.

Reform policies were based on theories developed by new classical macro-economists that support market liberalism, deny an interventionist role in the economy and encourage private ownership of enterprises. During this phase, the economy was opened to competition, agricultural subsidies were withdrawn, import restrictions were either removed or relaxed and most of the state-owned enterprises were privatised.¹⁰⁸ Within a period of one decade a heavily regulated economy was transformed into one of the most open and market oriented economies of the OECD area. Henderson (1995; p. 66) termed New Zealand as "one of the most notable episodes of liberalisation that history has to offer". A panel of ten internationally reputed economists and politicians rated New Zealand as the most liberal economy out of 20 major reforming countries of the world (*The Economist*, 1996).

The process of reform has been continuing even in most recent years. The government is committed to further liberalise the international trade regime, reduce long-term unemployment and improve business performance through further privatisation of non-strategic assets. It is, however, interesting to see how well the New Zealand economy is performing as a result of undertaking extensive reform measures during the last 13 years.

¹⁰⁸ For a detailed chronology of New Zealand's economic policy reform, see OECD (1998b), Bollard *et al.* (1996) and Evans *et al.* (1996).

4.2 Macro-economy

4.2.1 Structure of the Economy

The Gross Domestic Product (GDP)¹⁰⁹ of New Zealand was estimated to be 95,816 million New Zealand dollars in 1997 at current prices. Per capita GDP was NZ\$25,896. The country's per capita GDP is about 86 per cent of the OECD average. This is well below the per capita income level of Australia, about three-quarters of that of Japan and two-thirds of the United States of America (OECD, 1998b). At constant 1991-92 prices, per capita GDP of New Zealand¹¹⁰ was NZ\$23,430 in 1997 compared to NZ\$14,730 in 1962, which indicated a substantial improvement in the standard of living of New Zealanders over time.

Table 2.1
Gross Domestic Product in 1987, 1991 and 1997* by Industry Group
(at Constant 1991-92 Prices), New Zealand

Industry group	1987	1991	1997	1987	1991	1997
	NZ \$ million			% of total		
Agriculture and hunting	3849	4514	4652	5.27	6.17	5.37
Fishing, forestry and mining	1655	2019	2357	2.27	2.76	2.72
<i>Sub total: Primary industry</i>	<i>5503</i>	<i>6533</i>	<i>7009</i>	<i>7.54</i>	<i>8.93</i>	<i>8.09</i>
Manufacturing	14944	13168	15907	20.48	18.00	18.35
Electricity, gas and water	1978	2129	2290	2.71	2.91	2.64
Construction	3460	2822	3295	4.74	3.86	3.80
<i>Sub total: Secondary industry</i>	<i>20389</i>	<i>18119</i>	<i>21492</i>	<i>27.94</i>	<i>24.77</i>	<i>24.79</i>
Wholesale and retail services	9211	9407	10999	12.62	12.86	12.69
Restaurants and hotels	1536	1328	1647	2.10	1.82	1.90
Transport and communication	5095	6015	9449	6.98	8.22	10.90
Finance, insurance and business	10527	10693	12075	14.42	14.62	13.93
Community, social and personal services	3699	3869	5463	5.07	5.29	6.30
<i>Sub total: Tertiary or service industry</i>	<i>30068</i>	<i>31314</i>	<i>39633</i>	<i>41.20</i>	<i>42.80</i>	<i>45.72</i>
<i>Sub total: Market production group</i>	<i>55960</i>	<i>55966</i>	<i>68134</i>	<i>76.67</i>	<i>76.5</i>	<i>78.6</i>
Central and local government services	8386	8511	9228	11.49	11.63	10.64
Unallocated ^{1/}	2982	2684	2618	4.09	3.67	3.02
Owner occupied dwellings	5659	6002	6710	7.75	8.20	7.74
<i>Sub total: Non-market production group</i>	<i>17027</i>	<i>17197</i>	<i>18556</i>	<i>23.33</i>	<i>23.50</i>	<i>21.40</i>
Gross Domestic Product	72980	73163	86690	100.00	100.00	100.00

* Year ended 31 March.

^{1/} Includes indirect taxes (import duties, GST and taxes on capital transactions) and the nominal industry.

Source: Statistics New Zealand (1998a) and author's calculation.

The GDP of New Zealand is divided into market and non-market production groups. Market production group consists of primary, secondary and tertiary or service industries.¹¹¹ These industries contribute 8%, 25% and 46% respectively to GDP. The non-market production group contributes 21% (Table 2.1). The contribution of the market production group to GDP

¹⁰⁹ GDP is a measure of the value added from all economic activities in New Zealand.

¹¹⁰ Calculated by removing the effects of price changes from current price production accounts.

¹¹¹ Goods and services produced by these groups are exchanged in markets at prices determined by market forces.

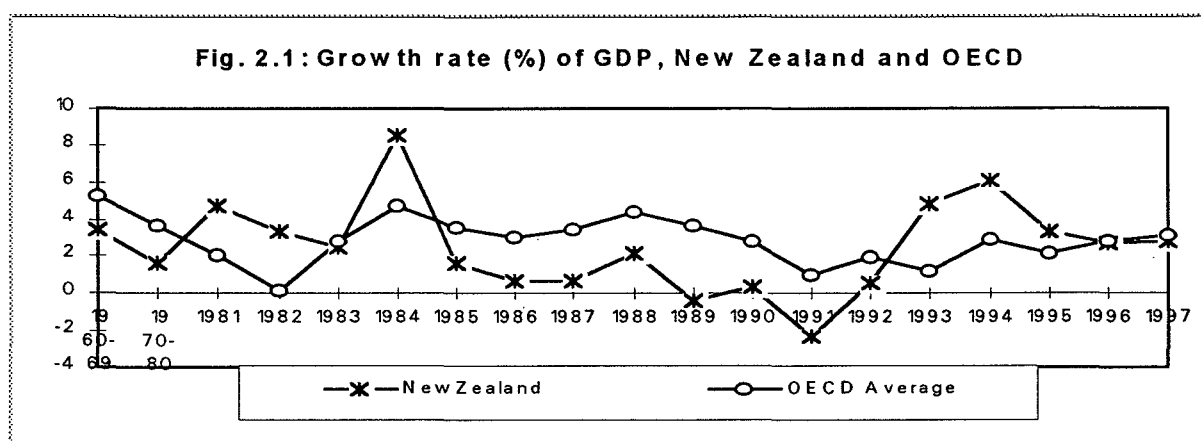
has increased in recent years, but that of non-market production group has declined. The contribution of agriculture to GDP remained almost stable over the last decade, while the contribution of industries has declined. The tradeable goods sector as a whole seems to have been under pressure from high interest rates and the continuing strength of the New Zealand dollar. The services sector did not face such problems and its contribution to GDP increased. The contribution of non-market production groups, particularly general government services, declined due to a reduction in the size of government bureaucracy, and that of unallocated groups declined due to a decline in the rate of import duties and taxes.

Taking market and non-market production groups together, the services sector¹¹² contributes 64% to New Zealand's GDP. As the country developed, its economy devoted a greater proportion of its activities to provide services and, therefore, this sector's contribution to GDP increased over time. The contribution of the industrial sector to GDP did not increase much in New Zealand, with the decline in contribution of agriculture. This is in sharp contrast with other developed countries of the world.

4.2.2 Growth of GDP

After World War II, the New Zealand economy experienced a relatively slower rate of growth than that of the other OECD countries. There was a marked decline in its growth rate during the 'stagflation' period of the 1970s. However, the growth rate picked up in the early 1980s mainly due to improved export competitiveness and productivity growth in the manufacturing sector, high level of agricultural production resulting from favourable weather and heavy subsidies, and expansion of domestic spending associated with very high rates of money and credit growth (The Treasury, 1984).

After the policy reform since 1984, growth of the economy declined and went down to -2.3% in 1991. This downturn was, however, reversed in the following year. Since 1993, the economy experienced a continued and rapid growth that exceeded the OECD average growth.



The growth of the economy has, however, been declining since 1995 after reaching its peak rates in the 5 – 6 per cent range in the 1993 and 1994 calendar years (Table B-1). The slowdown was partly attributed to the recent Asian crisis and partly to the difficult process of structural adjustment through which the economy had to proceed. Whether the decline in the

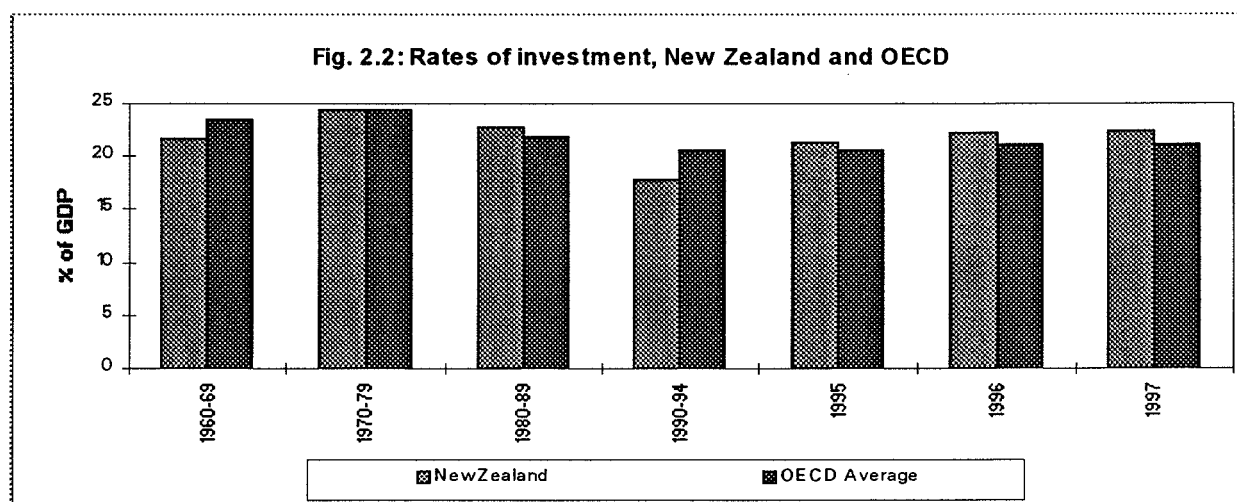
¹¹² Includes service industry, general government services and owner occupied dwellings.

country's economic performance over the 'stagflation' period has been definitely reversed by the recent growth records is yet to be seen.

4.2.3 Savings and Investment

With the decline in economic growth during the early stage of economic reform, there was a decline in the rate of gross national savings. The situation improved after 1992 but the savings rate declined again in 1995 and 1996 as growth rate in GDP declined. The savings performance declined at the household level but government and business savings improved. The overall effect was a decline in national savings. A long term declining tendency of savings rates was also observed for other OECD countries (Table B-1) over the most recent years.

The investment rate, as a percentage of GDP, has recently improved after a sharp decline in the early 1990s. The situation deteriorated in the 1980s compared to the 1970s. There was a long term decline in investment rate that seemed to have been reversed since 1995. The most recent investment rates have been higher in New Zealand than that of other OECD countries (Figure 2.2).



The overall improvement in investment rates in New Zealand was attributed to a significant increase in private investment. There was a sharp fall in public investment during the reform period mainly due to privatisation of corporatised trading departments. The rate of increase in private investment has, however, declined in recent years which has been partly offset by a higher rate of increase in public investment.

4.2.4 Unemployment

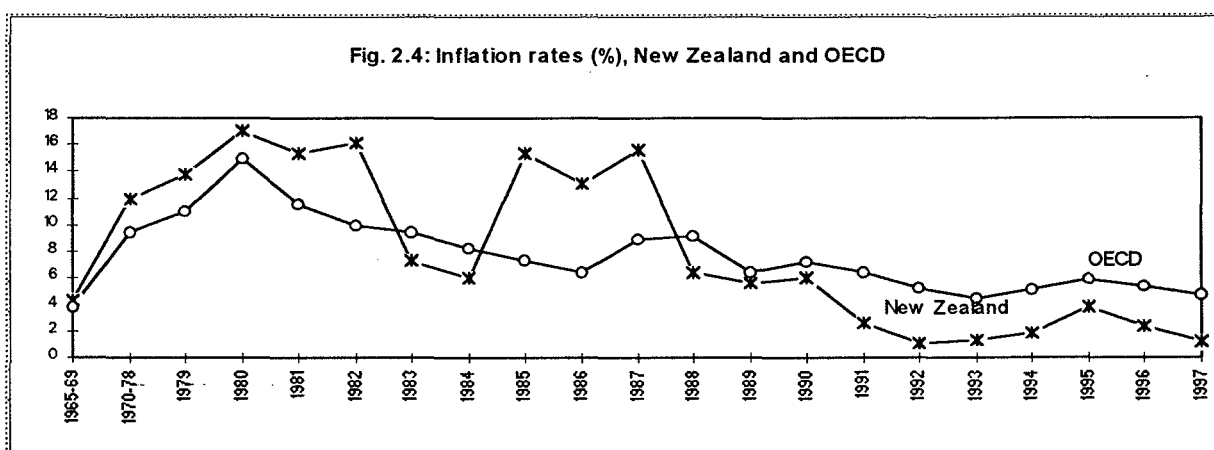
The rate of unemployment was very low in New Zealand during the 1960s and 1970s. The average rate of unemployment was 0.2 and 0.7 per cent, respectively, during those two decades having the record of full employment over several years. The rate of unemployment exceeded 2 per cent in 1980 and reached 5.2 per cent in 1984 and 4.5 per cent in 1985. After the first phase of reform, the unemployment rate continued to increase and it reached its peak at 10.3 per cent in 1992. In the following few years, however, the rate of unemployment declined. Very recently, it has slightly increased with the slowdown of economic growth.



The rate of unemployment had always been lower in New Zealand than the OECD average. During the early 1990s it exceeded the OECD record (Figure 2.3). Since 1993, it fell below the OECD level again. However, it was not possible to reduce the unemployment rate to its pre reform level even after thirteen years of experiment with economic liberalisation in New Zealand. A recent study (Hall, 1996) concluded that the country continues to have a high proportion of badly performing sectors. As a result unemployment remains well above its level in the 1960s and 1970s.

4.2.5 Inflation

The rate of inflation, as measured by the consumers price index, was low in New Zealand during the 1960s. The rate averaged 12 per cent in the 1970s and remained at an even higher level during the early 1980s (Figure 2.4). However, the rate of inflation was artificially maintained at 7.4 per cent in 1983 and 6.1 per cent in 1984 (Table B-3), through a freeze on prices and wages.



After deregulation in 1984, the country's inflation performance gradually improved. This performance became much better in the second phase¹¹³ of monetary policy reform that began

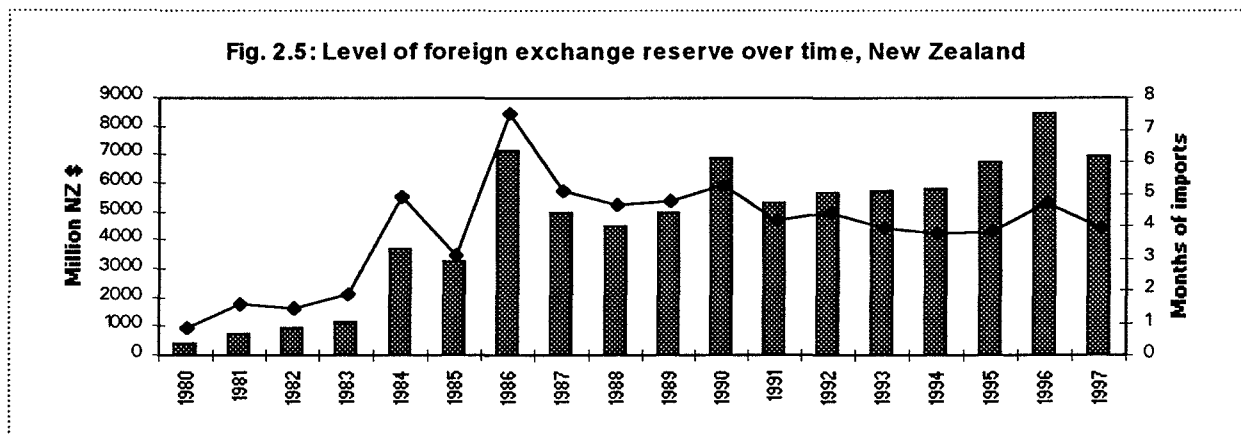
¹¹³ The first phase of reform covers the 20 percent devaluation in July 1984, abolition of interest rate controls, floating the New Zealand dollar, privatisation of state owned financial institutions and removal of restrictions on foreign currency borrowing. The second phase includes the promulgation of the Reserve Bank of New Zealand Act in 1989, the introduction of an official inflation target and the announcement of a more liberal regime for foreign direct investment.

in late 1988. The rate of inflation came down to 1 per cent in 1992. The country was able to maintain an inflation rate well below the OECD average during the late 1980s and 1990s.

An important objective of the Reserve Bank of New Zealand Act 1989¹¹⁴ was to maintain price stability. The Bank enjoys the operational autonomy to achieve that objective and acts according to guidelines provided by a Policy Target Agreement (PTA) between the Bank Governor and the Government Treasurer (Finance Minister). In December 1990, the PTA set an inflation target at 0-2 per cent which was widened in December 1996 to 0-3 per cent. It appears that the Bank was able to achieve the objective of maintaining price stability in the country since 1991 and the inflation target set by the PTA was largely met from 1992 (Table B-3). After an examination of inflation rates over the last six years, one can strongly argue that New Zealand has the best monetary policy of any country in the world.

4.2.6 Foreign Exchange Reserve

Prior to economic reform, the level of foreign exchange reserve in New Zealand was less than two months of import-equivalent. This has substantially improved after the reforms (Figure 2.5). Very recently the level of reserve has declined in relative terms, mainly due to a decline in New Zealand's trade balance. However, the annual foreign exchange reserve level of the country during the post-reform period has averaged four months of import equivalent, much higher than that of the pre-reform period.

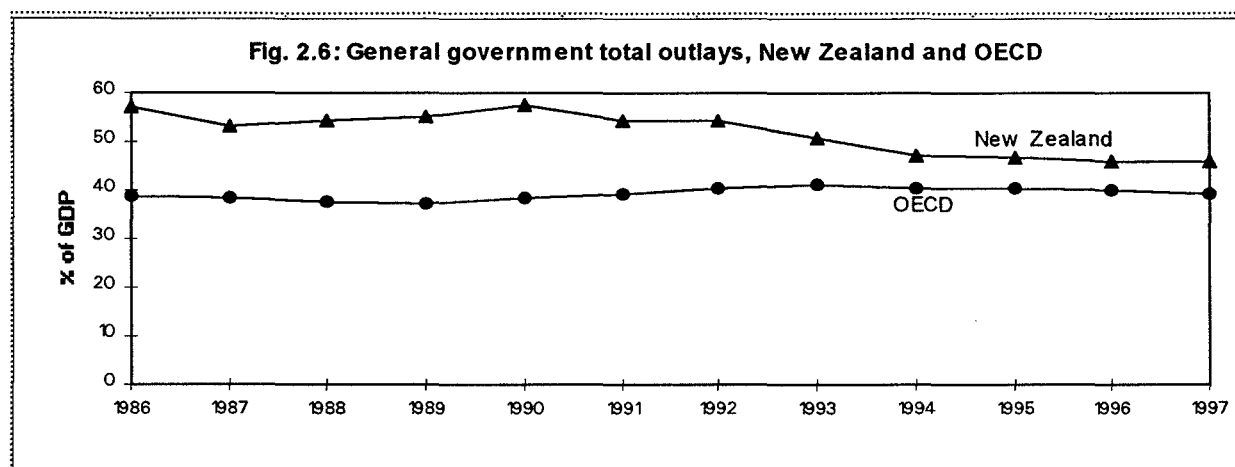


4.2.7 Financial Balance

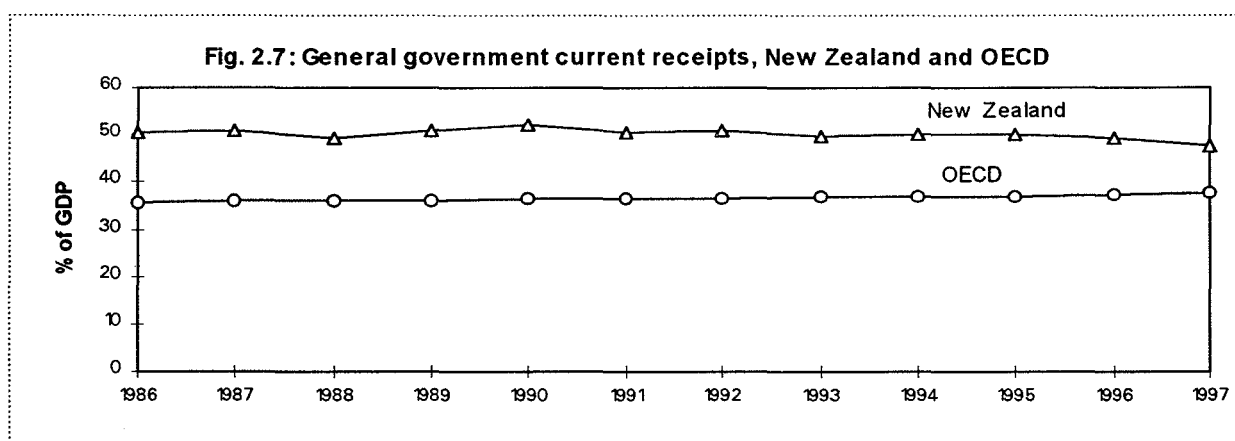
The central and local government expenses of New Zealand increased very rapidly in the early 1980s due to heavy subsidies on agriculture, increase in government activism and expansion of social welfare programmes. After the initiation of fiscal reform in 1991, general government outlays as a percentage of GDP gradually declined (Figure 2.6). While the general government expenditure in other OECD countries has slightly increased from 38.8 per cent of GDP in 1966 to 39.1 per cent in 1997, the general government expenditure in New Zealand had declined from 57.2 per cent to 45.9 per cent over the same period (Table B-4).

¹¹⁴ The Act made the Bank independent of politicians and gave it complete control over monetary policy to maintain price stability. At the same time, the Bank was made accountable to the Parliament through regular reporting.

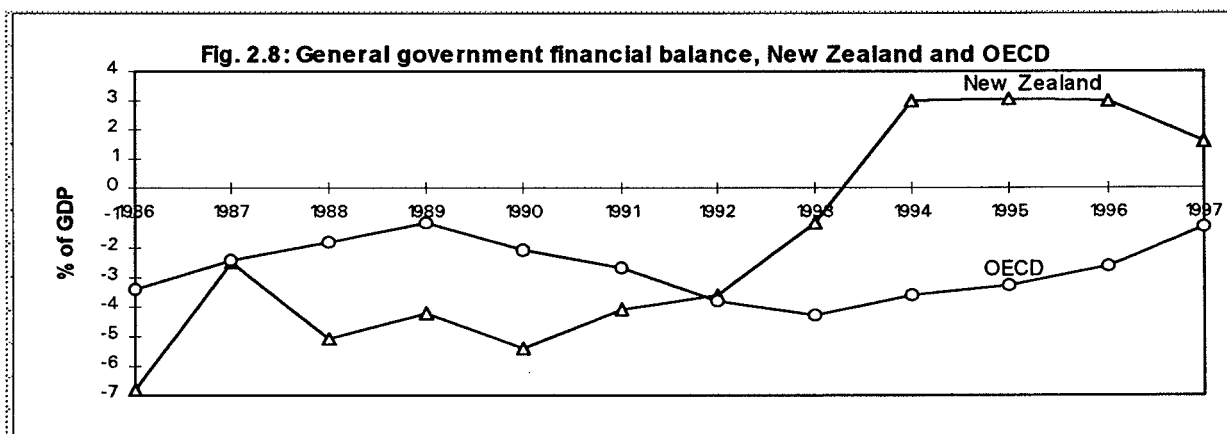
However, it is interesting to note that the total government outlay as a percentage of GDP, is still higher in New Zealand than that of the OECD average.



On the revenue side, the government of New Zealand undertook fundamental reform in the tax system that included introduction of a goods and services tax (GST), removal of some tax exemptions, lowering of marginal income tax rates and reduction of import duties. The net effect was a gradual decline of general government receipts from 50.4 per cent of GDP in 1986 to 47.6 per cent in 1997 (Table B-4). In contrast, the general government receipts in other OECD countries on average, has experienced an increase from 35.4 per cent to 37.8 per cent over the same period. However, the total government receipts as a percentage of GDP had always been higher in New Zealand than that of OECD countries' averages (Figure 2.7).



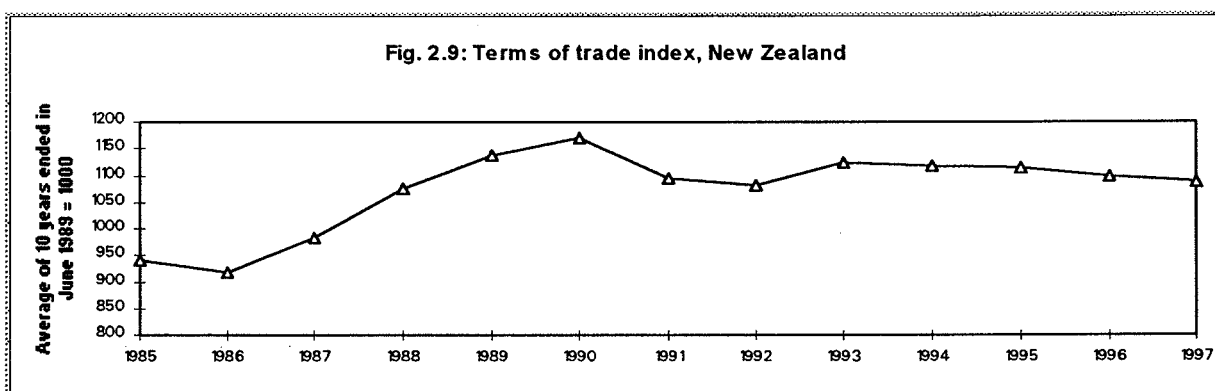
The overall impact of fiscal reform in New Zealand can be assessed from its gradual improvement in the financial balance. The country had been facing a high financial deficit in the early 1980s that was about 7 per cent of GDP in 1984-85. The deficit gradually declined in the late 1980s and the country witnessed a net financial surplus of around 3 per cent of GDP during the mid 1990s. The other OECD countries performed much better than New Zealand in terms of general government financial balance during the 1980s, but the situation reversed in the early 1990s. It can be noticed from Figure 2.8 that due to a strong improvement in the financial balance, the New Zealand curve crossed the OECD curve in 1992 and has continued to remain above the OECD curve thereafter.

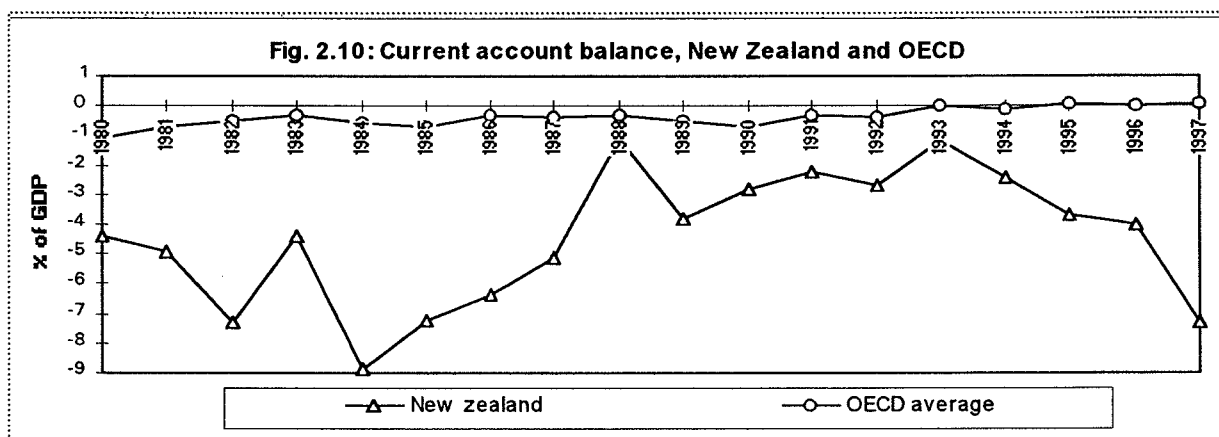


The Fiscal Responsibility Act of 1994 called on the government to run budget surpluses over a reasonable period of time. This was piously followed for the last few years. Although the magnitude of surplus has diminished very recently, it is still significantly high for a small economy like New Zealand. The fiscal sector of New Zealand is currently one of the good performing sectors that would justify its radical policy reform.

4.2.8 External Balance

New Zealand's trade balance had been always positive till the late 1970s. The situation deteriorated sharply in the early 1990s and the country faced a negative trade balance of US\$ 0.5 billion in 1984. After deregulation of the international trade regime, the country's trade balance improved (Table B-5). This can be explained by an improvement in the terms of trade index that showed a marked increase over the base until 1990 (Figure 2.9). During that period, the country's current account deficit reduced.





In recent years, the merchandise trade surplus has gradually declined mainly due to an overvalued New Zealand dollar that resulted in substantial losses in export market share. A continued deterioration of the terms of trade index has also contributed to a decline in trade surplus. By 1997, New Zealand ended up with a trade deficit of US\$ 0.1 billion. Meanwhile, the country's net revenue from tourism declined and transfer receipts from migration fell. All these factors have contributed to a sharp deterioration in the current account balance. The country's current account deficit stood at 7.3 per cent of GDP in 1997 which is very high by OECD standards (Figure 2.10). However, New Zealand's recent external deficit is still below the historical peak of about 9 per cent of GDP observed in 1984.

4.2.9 Public Debt

The Fiscal Responsibility Act of 1994 has underlined the necessity of reducing the public debt to a 'prudent' level. The Act did not, however, specify the level of public debt that would be considered as prudent. Nevertheless, a net public debt in the neighbourhood of 20 to 30 per cent of GDP is usually regarded as prudent (Dalziel and Lattimore, 1996).

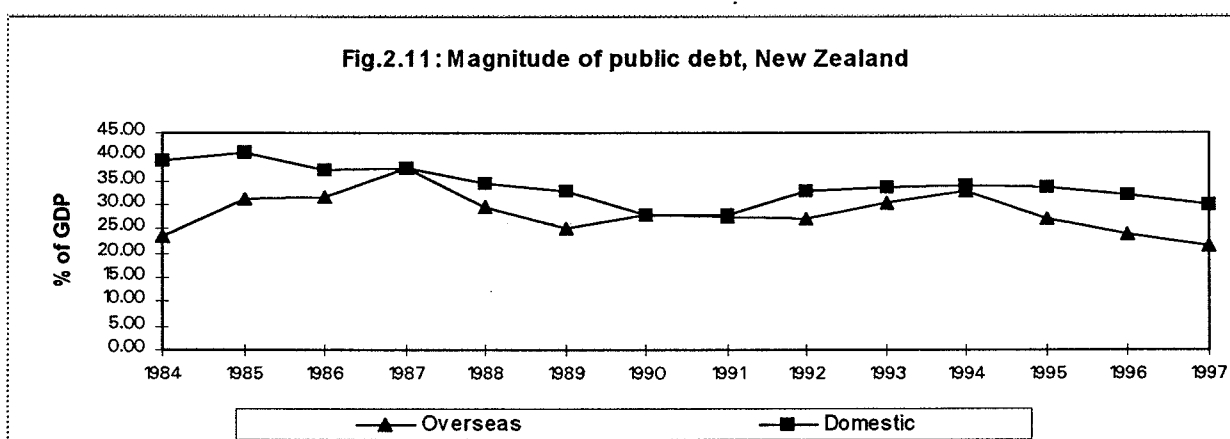
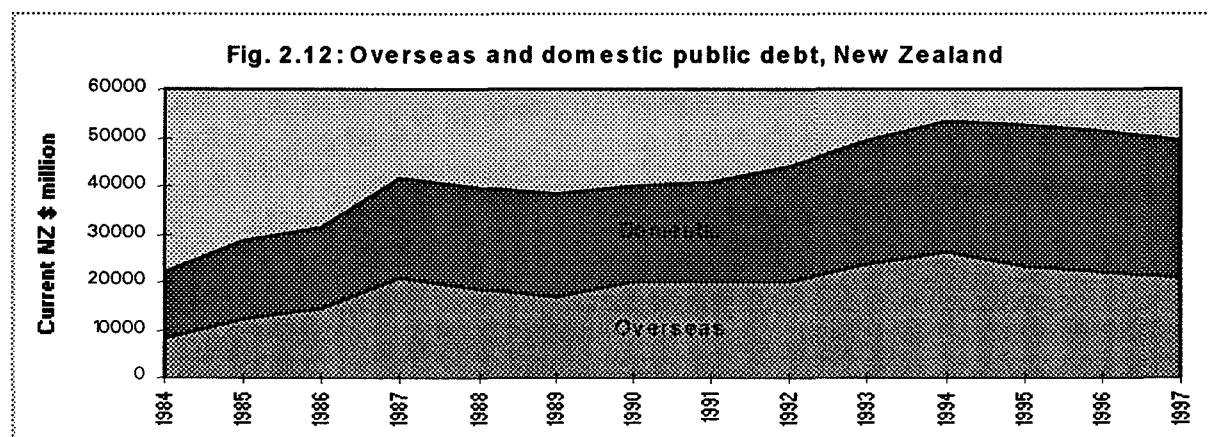


Figure 2.11 shows the magnitude of New Zealand's public debt that has declined over the years after economic reform. However, total public debt (overseas plus domestic; Table B-7) as a percentage of GDP, is still much higher than what is meant by a prudent level. The extent of New Zealand's gross foreign debt is currently over 80 per cent of GDP which is the highest

in OECD countries. Although the magnitude of net public foreign debt has declined¹¹⁵ after reform, the magnitude of private foreign debt has dramatically expanded¹¹⁶ due to removing restrictions on overseas borrowing.

The decline in overseas public debt in recent years was attributed mainly to a lesser government activism and a lower rate of public investment. This might have resulted in a slow growth of employment. Currently, most investments are taking place in the private sector. As a result, private foreign debt has increased. A significant part of this investment was made in the form of capital investment, on new production technology that would help raise the productivity of labour. This may not necessarily increase the demand for labour.



The structure of New Zealand's public debt has significantly changed in recent years. The amount of foreign debt in the current New Zealand dollar has declined, while the amount of domestic debt at current prices has increased (Figure 2.12). The government borrowed 57 per cent of its funds from the domestic market and the rest from the overseas market in 1997. The proportion of funds borrowed from the domestic market was about 50 per cent in 1987. This proportion has increased over time due to a cut in overseas borrowing. The evidence suggests that the government has been depending more on domestic resource mobilisation than on foreign borrowing after economic reform.

¹¹⁵ From 23.4% of GDP in 1984 to 21.6% in 1997.

¹¹⁶ From about 22% of GDP to 57% over the same period.

4.3 Agriculture

4.3.1 Importance of Agriculture

Agriculture is an important sector of the New Zealand economy contributing 5.6 per cent to GDP. This sector's contribution to employment is 8.1 per cent. These figures, however, under estimate the total contribution that agriculture makes to the economy of New Zealand, because they do not consider the contribution of agriculture in terms of processing, transport, input supply, and wholesale and retail activities. When these activities are included, the contribution of the agricultural sector to GDP increases to 15.6 per cent, and its contribution to total employment rises to 16.0 per cent in 1997.

The importance of agriculture to the country's economic life becomes more clear when one looks into the magnitude of this sector's share to total export earnings. In 1997, agricultural produce made up more than 53 per cent of New Zealand's merchandise exports. Pastoral and horticultural products are the major items.

Traditionally, farming in New Zealand has centred on sheep and cattle to produce an exportable surplus of meat, wool and dairy products. According to Ross and Sheppard (1990), wool was the first significant agricultural export. Meat and dairy products began to be exported after the introduction of refrigerated shipping in the early 1880s. Horticultural produce used to meet the demand for the home market only, but since the 1970s this has become an important item of export. In addition, cereal crops are grown mainly for domestic consumption.

Rural population accounts for 15 per cent of the total population in New Zealand.

4.3.2 Assistance to Agriculture

The agricultural sector in New Zealand used to be favoured by public policies to encourage higher production. This was necessary to increase export earnings. Positive public policies in agriculture initially took the form of subsidy. The first subsidy was given in 1897 on transportation of lime. After that occasion, a subsidy was given in 1931 on phosphatic fertiliser.

Following the depression of the 1930s, New Zealand put in place a comprehensive set of import barriers to protect domestic industries. The protectionist policies continued until the early 1980s. This resulted in higher costs of agricultural production through higher prices of protected inputs. To compensate for the increase in cost, several programmes for assisting the agricultural sector were necessary. Until the early 1960s, the magnitude of assistance to agriculture was low, and the profile of assistance was limited mainly to research, extension, market development and marketing boards.

The agricultural development conferences held in 1963 and 1964 emphasised the need for higher agricultural production and export earnings. This led to greater state intervention in the agricultural sector. The extent of various production grants had been gradually accelerated. Subsidies were extended to livestock drenches, pesticides, weedicide and the aerial application of fertiliser. As a result, agricultural production significantly increased.

After the commodity price boom of the early 1970s, farm income fell sharply due to a deterioration in farmers' terms of exchange. New Zealand's terms of trade declined as a result

of agricultural protectionism overseas, the 1973 rise in oil prices and Britain's entry to European Union. In order to keep up farmers' confidence and boost agricultural production, a wide range of incentive schemes was introduced. It was assumed that higher farm output would ensure an increase in the volume of traditional exports and hence in the value of export receipts.

Initially, the Livestock Incentive Scheme (LIS) and the Land Development and Encouragement Loans (LDEL) were introduced¹¹⁷ in 1976 and 1978. Towards the end of the 1970s, the Supplementary Minimum Prices (SMPs)¹¹⁸ Scheme was introduced for a range of major traditional export commodities. In addition, fertiliser subsidies¹¹⁹ continued on an increasing scale, the Rural Bank continued its lending at below market interest rates and the Meat Board started to borrow heavily to sustain meat prices at a level above world prices.¹²⁰ As a result, land value moved up¹²¹ and farm production increased (Figure 2.13)¹²² at a time when world prices for agricultural products were falling. The government faced a serious fiscal deficit due to increasing liabilities for financing various investment schemes. In 1985, subsidies to agriculture accounted for about 40 per cent of the total budget deficit.

¹¹⁷ The LIS and the LDEL were introduced to increase investment in the pastoral sector. The LIS made the provision for a loan of \$12, or a tax deduction of \$24 for each supplementary stock unit to encourage production. The loan was written off for those who were able to increase their stock units by more than 2 per cent and that improvement sustained for two years. The LDEL was made available to cover the initial cost of developing unimproved land for growing pastures. A maximum of NZ\$250 per hectare was available for a period of 15 years. The accumulated interest was written off periodically and only half of the principal amount was to be repaid when land development projects were maintained to the satisfaction of the Rural Bank. The above two schemes provided a loan of about NZ\$295 million for development of the pastoral sector.

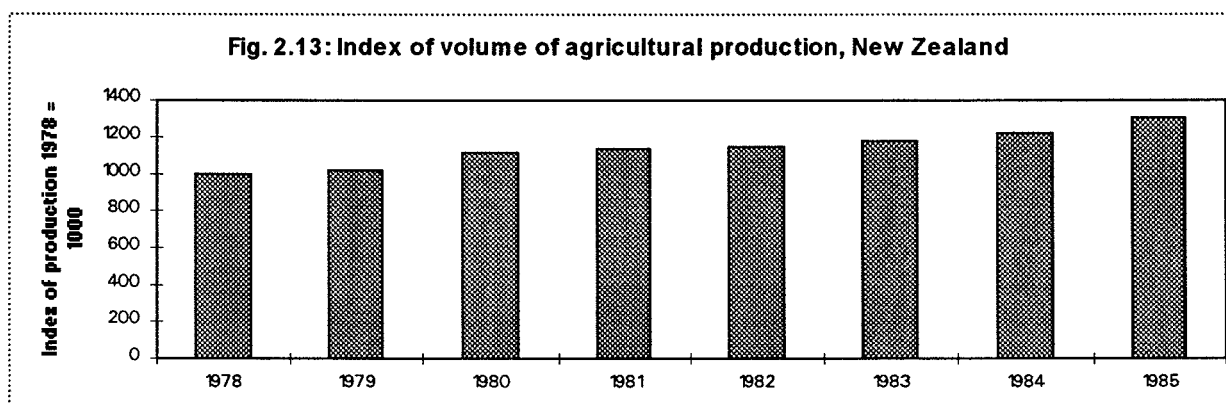
¹¹⁸ Historically, the New Zealand Dairy Board, Meat Board, and Wool Board had been responsible for minimum price schemes to stabilise farmer incomes. After the commodity price collapse in the mid 1970s, farm income significantly declined. Government introduced the SMP to raise farmers income. This was a subsidy programme by direct payment to supplement minimum prices paid by the producer boards, when such prices were less than the programme target prices.

¹¹⁹ Calculations made by Tyler and Lattimore (1990) showed that the amount of fertilizer subsidies accounted for more than NZ\$50 million per year during the early 1980s.

¹²⁰ For further discussion on various incentive schemes and the chronology of measures to support farm product prices, see Ross and Sheppard (1990), Ross (1987), Gouin *et al.* (1994), Griffith and Martin (1988), Johnson (1986) and Tyler and Lattimore (1990).

¹²¹ The average nominal sale price of farmland increased by 240 per cent between 1976 and 1982 (Reserve Bank of New Zealand, 1996a).

¹²² The overall agricultural production rose by 31 per cent in seven years from 1977/78 to 1984/85. The Reserve Bank of New Zealand (1996a; p. 447) states, "Between 1977/78 and 1984/85 wool production rose by 25 per cent in volume terms, while the production indices for sheep and dairy production increased by 33 per cent and 26 per cent, respectively. But these gains were only achieved at a significant cost to the taxpayers. Supplementary minimum price payments totalled around \$1 billion in the three years to 1984/85 when they were phased out; the Meat Boards cumulative meat trading losses, which eventually will be funded by the public, also amounted to nearly \$1 billion between 1981/82 and mid 1985/86 when meat marketing reverted to the meat companies; and interest rate concessions for the farm sector were widespread."



The fiscal deficit, developed in the early 1980s, was in part caused by various incentive schemes and subsidisation programmes that benefited the agricultural sector. At the same time, the industrial sector also heavily benefited from “Think Big” projects and import restrictions. Several studies suggest that the assistance given to agriculture through different incentive schemes and subsidisation programmes was not enough to compensate for the higher cost incurred as a result of protecting the manufacturing sector. Ross and Sheppard (1990, p. 281) mentioned that “the assistance granted to New Zealand’s agricultural sector in the past was largely offset, and in some years more than offset, by the burden imposed on it by the high level of protection of the manufacturing sector, which raised the cost of agricultural inputs. Rough estimates put the magnitude of this burden (the “cost excess”) at 20 per cent from 1969–1970 to 1985–1986”. Rayner (1990; p. 18) observed that “it would have been better to have no protection for domestic import competing industries and, at the same time, no compensation for agriculture”.

4.3.3 Withdrawal of Support

The farm sector in New Zealand provides livelihoods to a small segment of the population. Only about 6 per cent of total households are farm households. As world prices for agricultural produce declined and total agricultural production in New Zealand increased, it seemed unremunerative to continue support to agriculture for even higher production, although such a policy change was against the business interest of the farmers. The new Labour government, that came to power in 1984, was less interested in farmer concerns because it did not depend much on rural voters to gain its power. Its supporters were largely urban based (Roche *et al.*, 1992). So the party leaders did not at all hesitate to take the agricultural sector at the front line of economic reform in order to reduce the growing public indebtedness and budget deficit.

At the outset of reform in 1984, SMP was abolished. All forms of assistance were drastically reduced. Research, advisory and inspection services were allowed to run on a cost recovery basis. In 1987, the rural bank was privatised and in February 1995, the agricultural extension service was sold to Wrightson Limited. Price supports, taxation and interest rate concessions, capital subsidies, input subsidies and free government services were all removed. As a result, New Zealand farmers were totally exposed to world market forces, within a very short period of time.

With a radical policy change in New Zealand agriculture, the expenditure incurred by MAF drastically reduced. This was about 3 per cent of gross agricultural output in 1970, which increased to 13 per cent in 1984 and declined to less than 2 per cent in the 1990s. Currently,

MAF expenditure has been maintained under \$200 million per year – a level around 25 per cent of that in 1984 (Gouin *et al.*, 1994).

Table 2.2 shows the forms and levels of assistance given to pastoral agriculture over time. It can be noticed that the gross assistance declined from NZ\$773 million in 1980-84 to NZ\$ 108 million in 1997. The effective rate of assistance¹²³ became negative in recent years. The negative value of ERA since 1995 indicates that the “cost excess” imposed on agriculture by the protection of inputs was greater than the total value of assistance given to it.

An international comparison of the magnitude of assistance given to the farming sector is presented in Table 2.3. It can be noticed that the assistance given to New Zealand farmers measured in terms of producer subsidy equivalents (PSEs)¹²⁴ declined sharply in the late 1980s and remained at a 3 per cent level over the last few years. The situation was quite the opposite in Japan and the average level of assistance was very high for the European Union and the OECD. The Table demonstrates that New Zealand farmers are now the least assisted compared to other developed countries of the world.

As the assistance to agriculture sharply declined, farm production fell and profitability of farm business declined. Farmers became increasingly indebted. Farmland prices were continuing to fall. A noted agricultural economist of New Zealand, who vividly narrated the situation immediately after the initial phase of agricultural policy reform, wrote, “The situation facing heavily indebted farmers who produce New Zealand’s traditional export commodities, is the worst since the 1930’s depression. It shows little sign of early improvement” (Ross, 1987, p. 10-7).

Indeed, until very recently, there was little sign of improvement. However, political will for radical economic reform remained very strong. Federated Farmers, the farming lobby in New Zealand, was divided in its response to policy change (Cloke, 1989). Farmers, initially, did not believe that their government would not support them. Afterwards, when they realised the hard facts, “they became very angry and, in 1986, nearly one-third of the farming population marched in a protest to Parliament” (Walker and Bell, 1994; p. 30).¹²⁵

¹²³ The ERA may be defined as a mathematical device that measures the assistance to an industry – net of the cost excess – as a proportion of the estimated value added to purchased inputs in an (hypothetical) unassisted, free trade situation (Tyler and Lattimore, 1996).

¹²⁴ The PSE measures the assistance to output, inputs and value adding factors as a percentage of output value without assistance. It shows the extent that domestic prices are higher than world prices owing to government interventions in markets and trade, and indicates the value of transfers from domestic consumers and taxpayers to farmers.

¹²⁵ Even today, most of the farmers react very angrily to agricultural policy reform of the late 1980s and early 1990s and consequent withdrawal of farm support. Recent field observations suggest that only the young and highly educated farmers support radical policy reform and ‘farming without subsidies’.

Table 2.2
Forms and Levels of Assistance to Pastoral Agriculture
(NZ \$ Million, New Zealand)

Forms of assistance	1980-84a	1985-90a	1995b	1996b	1997b
	Level of assistance (NZ \$ million)				
Assistance on output	271	104	5	5	3
Assistance on input	73	28	2	0	0
Assistance to value adding factors	429	550	101	105	105
Total gross assistance	773	681	108	110	108
<i>Less: Excess costs imposed on pastoral agriculture 1/</i>	359	335	150	143	143
<i>Equals: Net assistance to pastoral agriculture (A)</i>	414	346	-42	-33	-35
Unassisted net output in pastoral agriculture (B)	1107	1728	2277	2623	2620
Effective rate of assistance to pastoral agriculture (A)/(B) x 100	41	20	-2	-1	-1

a. Average of years ended March.

b. Year ended June.

1/ As a result of providing assistance to other activities. Estimated at 20% of the unassisted inputs in 1979/80-1985/86, 10% in 1987/88, 9% in 1988/89, 8% in 1989/90, and 4% from 1994/95 onwards. A lower rate for the latter years reflects increasing liberalisation of non-agricultural activities over time.

Source: MAF (1998).

Table 2.3
Producer Subsidy Equivalents (% of all Products), New Zealand
and Other Developed Countries

Country	1979-81	1986-88	1990-92	1992-94	1995	1996	1997*
<i>New Zealand</i>	18	18	4	3	3	3	3
Australia	8	10	11	10	10	8	9
Canada	20	42	42	31	22	22	20
United States	14	30	22	21	13	15	16
Japan	60	73	68	74	76	71	69
OECD average	29	45	42	42	40	35	35
European Union	36	48	47	48	49	43	42

* Year ended December

Source: MAF (1998).

4.3.4 Composition of Agricultural Production

Agriculture in New Zealand is dominated by the pastoral sub-sector. The land resource and climate of this country have offered a long grass-growing season that has facilitated rearing of animals at a reasonable cost. Since the late 19th century, New Zealand has been exporting wool, dairy products and frozen meat. The economy of this country was built around trade in pastoral products.

The contribution of the pastoral sub-sector to gross agricultural production is currently 58.4 per cent. There was a sharp decline in the share of pastoral products from 77.9 per cent in 1973 to 59.6 per cent in 1985. After reform in 1994, the contribution of this sub-sector to gross agricultural production has almost stabilised, having declined by about 1 per cent (Table 2.4). There was, however, a marked decline in the share of wool, but a steady increase in the share of dairy products. The change in the share of fruit and vegetable sub-sectors was also noticeable.

The total number of farms increased during the 1970s and 1980s but declined during the 1990s (Table 2.5). The number of farms increased in the 1970s due to more incentives given to the farming sector. After the policy change in 1984, the number of large farms declined. These farms were severely affected by the removal of subsidies forcing some of them to sell the whole or part of their farm. As a result, the number of small farms increased. Consequently the total number of farms increased followed by a decline in the average size of farms. The decline in the number of total farms in the 1990s was, however, largely due to a change in the definition of farms in 1994. Fairweather (1998; p. 8) considers this decline as “one of the longer-term affects of deregulation”.

The number of sheep increased during the 1970s and early 1980s due to favourable market prices and heavy subsidies in farming. After the withdrawal of subsidies, sheep numbers fell quickly. The number of dairy cattle increased, but the number of beef cattle remained almost stable. The number of pigs has declined over time. There has been a marked shift from traditional pastoral farming to goats, deer, fruits and vegetables. The changes in the structure of farm business has occurred largely due to the cyclical nature of prices and changes in the overseas demand for New Zealand’s agricultural produce.

As a country develops and population increases, the total area under agricultural operation declines. Increased pressure for urbanisation and industrialisation takes land out of cultivation. It is not clear how far the recent decline in area under agricultural occupation in New Zealand was associated with the increase in urbanisation. A plausible explanation is that the decline in the number of sheep farms has resulted in a marked decline in total area under pasture land.¹²⁶ This has led to a decline in total area of farmland.

4.3.5 Growth in Output and Export

A change in agricultural policy might have resulted in a change in the volume of agricultural production. In order to examine this proposition, time series data on volume of production of some selected agricultural commodities were assembled. Figure 2.14 shows the volume of production of some major pastoral products over time. It can be noticed that the volume of each type of pastoral product increased until 1985. The change in agricultural policy since 1984 has resulted in a sharp fall in wool production. Dairy production increased but meat production stagnated. A fall in sheep meat production was offset by a rise in beef production.

¹²⁶ Pasture land in New Zealand accounts for about 80 percent of total farm land.

Table 2.4
Composition of Agricultural Production (Year Ended March), New Zealand

Components	1973	1985	1990	1995	1996	1997
	As a percentage of total agricultural production					
Wool	22.7	16	13.4	9.2	7.5	6.3
Sheep and lambs	16.8	10.4	9.3	10.66	9.7	12
Cattle	17.4	14	12.8	13.3	11.5	9.2
Dairy products	21	19.2	23.3	25.08	30.7	30.9
Sub-total: Pastoral	77.9	59.6	58.8	58.3	59.4	58.4
Fruits & other horticulture	2.5	7.3	8.5	9.33	9.5	10.3
Vegetables	2.7	3.1	4.4	5.58	5.1	4.3
Others*	16.9	30	28.3	26.8	26	27
Sub-total: All others	22.1	40.4	41.2	41.7	40.6	41.6

* Include deer, poultry and eggs, pigs, sales of live animals, value of livestock change, crops and seeds, other farming, agricultural services and non-farm income.

Source: Sandrey and Reynolds (1990), MAF (1995 and 1998) and author's calculation.

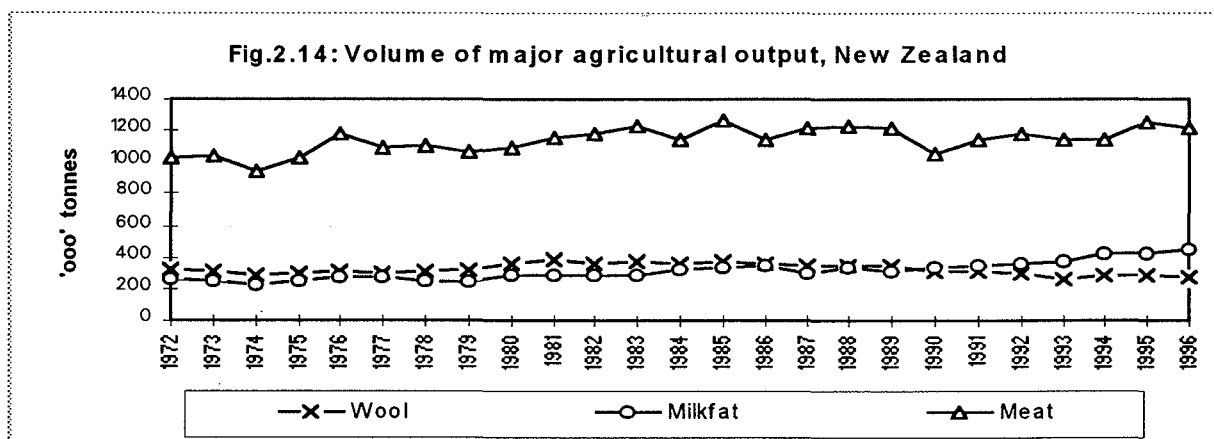
Table 2.5
Number of Farms and Livestock Population, New Zealand

Year*	Number of Farms	Area in occupation (000 hectares)	Dairy cattle (000 head)	Beef cattle (000 head)	Sheep 1/ (000 head)	Pigs (000 head)
1971	64882	17423	3198	4796	58911	552
1981	72515	21250	2922	5113	69884	420
1991	80439	17450	3429	4671	55162	407
1995	68776	16578	4090	5182	48816	431
1996	66045	16547	4165	4852	47394	424

* Year ended 30 June.

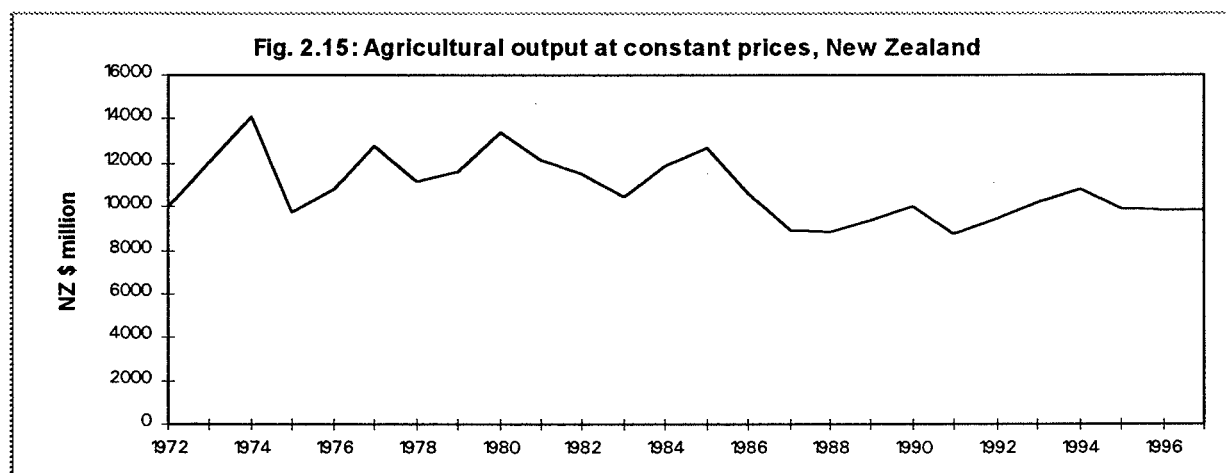
1/ The sheep number peaked at 70.3 million in June 1982.

Source: Statistics New Zealand (1998b).



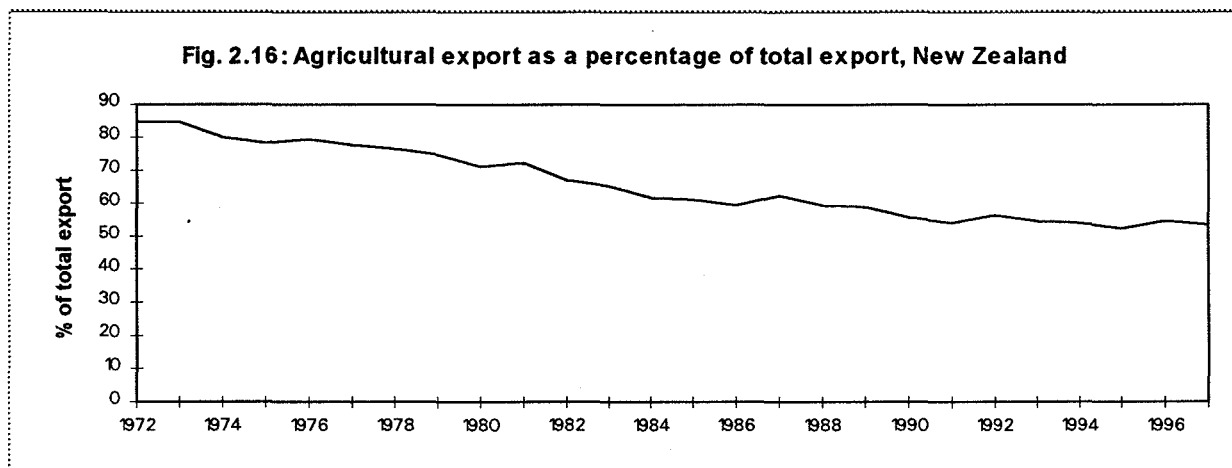
Changes in the volume of different agricultural products over time do not give a conclusive picture about the trend in total agricultural production. As the volume of one product increased, the volume of other products declined. Also there were differences in volumes among different products. Hence, the value of all agricultural products at current prices was taken into consideration. The effect of price changes was then removed by deflating current price production accounts using the consumers price index. The value of all agricultural output, so obtained, is presented in Table B-10.

Figure 2.15 shows the long-term changes in value of all agricultural products over time at constant (December quarter 1993) prices. It appears that the value of all agricultural output, although variable from year to year, increased until 1985 and then started to decline. The total production of output seems to have recovered after 1990, but declined again from 1995. The value of total output did not return to its pre-reform level.

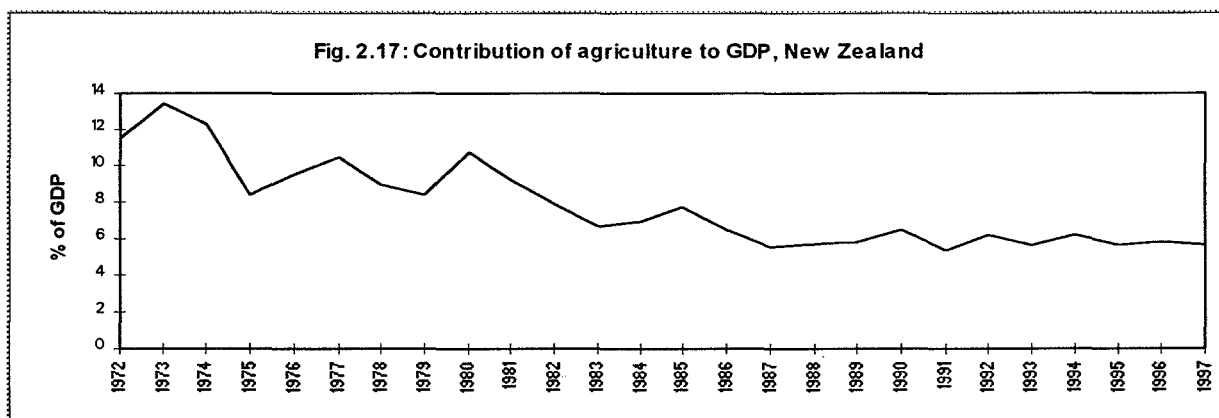


For a comparison of the growth rate of output among different time periods, trend growth rates were calculated. Results presented in Table 2.6 show that the trend growth rate of output was positive until 1984 and then it declined. The magnitude of downturn was most severe during the reform period. In more recent years, the total value of output appears to have increased, but the overall growth rate remained significantly negative.

A decline in total agricultural output may lead to a decline in total export earnings. Table B-11 presents data on real export earnings over time. The amount of agricultural export reached its peak in 1985 at NZ\$12,133 million and then the amount declined. In recent years, there has been little improvement in agricultural export earnings but the trend growth rate continued to be negative after policy reform. Agricultural export as a percentage of total export has sharply declined over time (Figure 2.16). Although the most recent decline in New Zealand exports could be explained by the Asian crisis, the continued decline in agricultural export since 1986 must have partially attributed to a decline in domestic production due to agricultural policy reform.



The growth rate of agricultural GDP and this sector's share of GDP over time could be a useful indicator of measuring the effect of recent policy reform. By subtracting the value of intermediate consumption from the total value of output, the agricultural sector's share to GDP was calculated. The GDP thus calculated at current prices, was expressed at constant prices by taking away the effect of price changes using the consumers price index (base December quarter 1993). It can be observed from the real GDP series placed in Table B-12 that the agricultural GDP of New Zealand was at its highest in 1973 amounting to NZ\$8,169 million. The amount reduced to its lowest in 1987 at \$3,982 million. After that year, the gross agricultural production gradually increased to \$4,995 million in 1996 and then slightly reduced to \$4,989 million in 1997. The contribution of agriculture to GDP has fallen over time, with fluctuations from one year to another, but has stabilised around 5.6 per cent in the most recent years (Figure 2.17).



As an economy grows, the growth in agriculture proceeds at a slower rate than that of other sectors of the economy. The slow rate of growth in agriculture is attributed to a low income elasticity of demand for agricultural produce (Kuznets, 1966). Because of the lower rate of growth of agriculture compared to that of other sectors of the economy, the agriculture sector's share of GDP declines. In most recent years the growth rate of New Zealand's gross agricultural production was comparable to that of total GDP (Table 2.6) and, therefore, the contribution of agriculture to GDP has stabilised. It is interesting to note that the trend growth rate in gross agricultural production improved after policy reform, mainly due to a decline in intermediate consumption. Valdes (1994) reported that the ratio of real output to real intermediate input increased after policy reform and real agricultural GDP increased significantly over the years.

Table 2.6
Trend Growth Rates of Real Agricultural Output, Export and GDP
at Constant Prices, New Zealand

Year*	Growth of agricultural output	Growth of export (%)		Growth of GDP (%)	
		Agril.	Total	Agril.	Total
1972-97	-0.94	-0.18	1.88	-1.75	1.55
1972-84	0.27	1.08	3.48	-3.54	0.84
1985-94	-0.87	-0.74	0.79	-0.11	1.42
1995-97	-0.64	-0.05	-1.14	3.37	3.09

* Year ended March

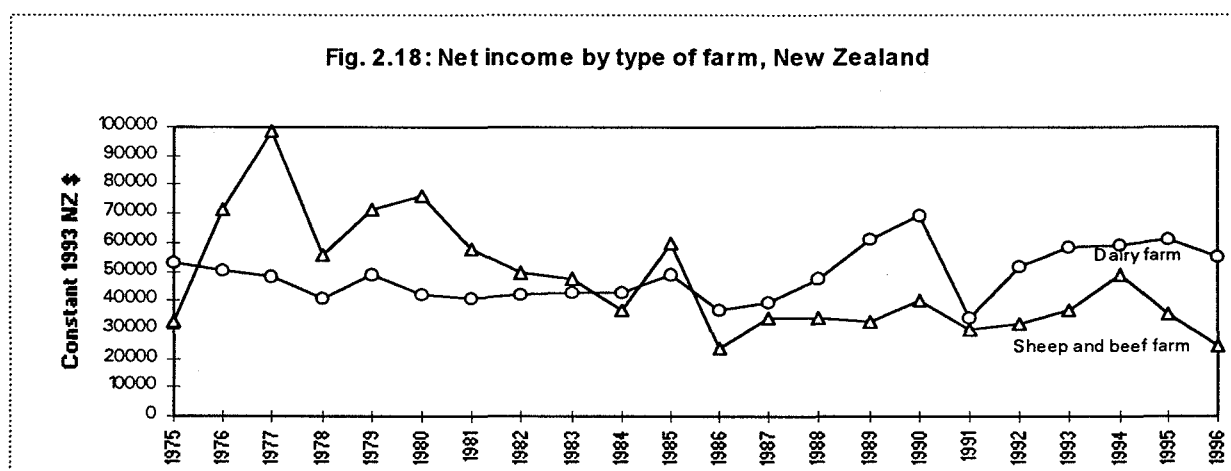
Note: Trend growth rates have been computed by fitting semi-log functions to the data.

Source: Tables B-10, B-11 and B-12.

4.3.6 Farm Income

After the policy change in 1984 all support prices and income stabilisation programmes were abolished. Costs of farm production increased due to withdrawal of subsidies. The production price index continued to remain below the input price index. As a result net farm income sharply declined.

A long-term decline in net income of New Zealand's sheep and beef farms, and dairy farms, is apparent from Figure 2.18. In fact, net farm income in real terms started to deteriorate immediately after the commodity price boom of the early 1970s. Government subsidies and increasing output were able to offset the rising cost of inputs to some extent, but were insufficient to reverse the decline, at least for sheep and beef farms. However, the net income of dairy farms remained almost stable until 1985 after experiencing a short-term decline up to 1978 (Table B-13).



In 1986, after the withdrawal of government support, all farms experienced a strong decline in net income. The downturn was more severe for sheep and beef farms than for dairy farms. Nevertheless, from the following year net farm income started to improve for each type of farm. By 1990, dairy farms income exceeded their pre-reform levels. Sheep and beef farm income, although improved, remained at a lower level. Very recently, net income of each farm category declined again.

As the cost of production increased and real farm income fell after policy reform in 1984-85, farmers tried to improve the level of income by controlling expenditure. First, they chose to minimise the cost of fertilisers by purchasing a lower quantity. As a result, total fertiliser sales decreased to 55 per cent in 1988 from its 1985 level (Table 2.7). Since 1989, total sales of fertiliser started to increase. By 1994, the total sales of fertiliser superseded all its pre-reform records. Moreover, there has been a change from superphosphatic to other forms of fertiliser that have higher nutritive value.

Table 2.7
Fertiliser Sales (Tonnes) Over Time, New Zealand

Year*	Manufactured/ Superphosphatic	Others including Phosphatic rock	Total
1985	2012589	158831	2171420
1986	1122389	117272	1239661
1987	1021959	183824	1205783
1988	1092530	99346	1191876
1989	1215288	157018	1372306
1990	1309602	194446	1504048
1991	1095457	217553	1313010
1992	1216531	421699	1638230
1993	1493108	456096	1949204
1994	1629889	593957	2223846
1995	1424316	622924	2047240
1996	1577928	627640	2205568

* Year ended 30 June.

Source: New Zealand Meat and Wool Board's Economic Service (1997b) and Statistics New Zealand (1998b).

In addition to reducing fertiliser cost, farmers reduced the cost of labour by using lower man-days of hired labour.¹²⁷ At the same time, they cut expenditure for repairs and maintenance.¹²⁸ The cost of animal health, weed and pest control, and contract work also decreased.¹²⁹ Many farmers changed their life style to reduce their own expenses on account of farm.¹³⁰ As a result, the cost of farm operation dropped, which has contributed to stopping the drastic fall in real net farm income.

Due to a decline in the use of inputs, productivity per unit of input used has risen since the policy reform. The increase in productivity was more pronounced in the case of labour. Nevertheless, a decline in farm expenses has resulted in a prolonged drop in the real value of total agricultural output, which is unlikely to be reversed unless a much higher production is dictated by international market prices in the future.

¹²⁷ This was, however, compensated by higher use of family labour. A fruit producer at Whenuapai, Auckland reported that he had to work 12 hours and his wife 10 hours a day to save expenses on hired labour.

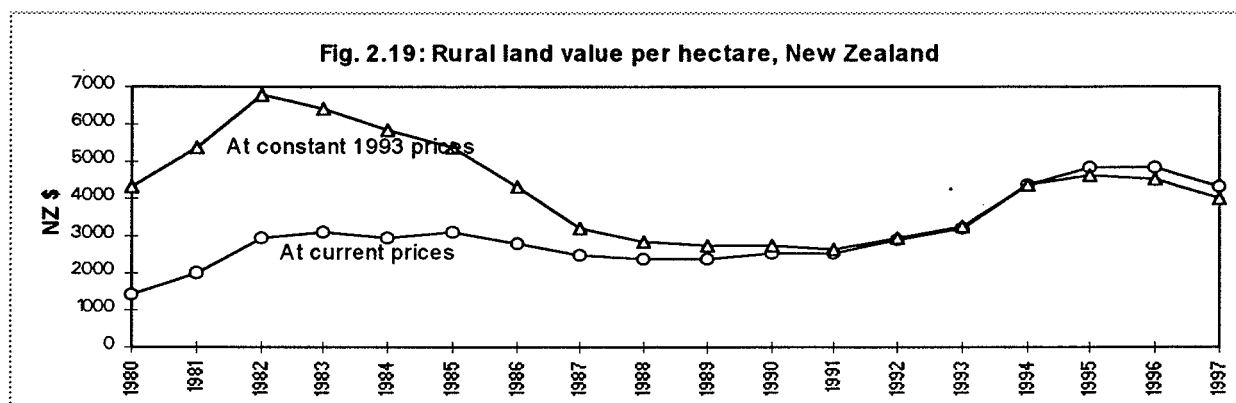
¹²⁸ For evidence, see Reymolds and SriRamaratnam (1990).

¹²⁹ See Gouin *et al.* (1994).

¹³⁰ A dairy farmer at Gore reported that he used to stay in a good hotel at the cost of NZ\$92 per night when he had to visit Queenstown and charge it to his farm account. Now he stays in a Back Packers that costs only NZ\$17 per night.

4.3.7 Land Value

The impact of agricultural policy changes in the 1980s was clearly reflected in rural land values. The Valuation Department's freehold sale price series shows that the average price of rural land rose very rapidly through 1980 - 1982. The real value of rural land per hectare increased by 58 per cent within that period. The combined effect of input subsidies, agricultural investment and output price stabilisation schemes pushed land prices to a high level in the early 1980s. After 1982, land prices moved downward on the speculation that the real interest rates would go up due to a stronger monetary policy in the near future.¹³¹



After 1985, the decline in land value was severe (Figure 2.19). The estimated loss in land value was 51 per cent at constant 1993 prices and 17 per cent at current prices between 1985 and 1991 (Table B-14). The loss in rural land value was attributed to a decline in farm income, depressed returns for sheep meats and removal of most forms of government assistance to agriculture.

Those farmers who purchased their farms either at or near the peak of the boom in rural land prices were in greater difficulty after the policy reform. However, that difficult situation did not last long as land prices moved upward after 1992. In recent years, the average value of rural land has been falling again, reflecting a threat to its stability.

4.3.8 Rural Indebtedness

Heavy income support coupled with large increases in land prices in the early 1980s led to a strong growth in lending to the rural sector. After the withdrawal of support and subsequent fall of farm income, most farmers became overburdened with debt levels exceeding the reduced land value of the farm (Reserve Bank, 1996b). The extent of rural indebtedness continued to grow over the period of financial stress. From 1982 to 1988, the amount of outstanding loans increased by 53 per cent, but farmers' capital assets fell by 22% (Johnston and Sandrey, 1990).

The magnitude of rural debt seemed to have further increased in the late 1980s and early 1990s, even after partial recovery of farm incomes. Loans outstanding in the rural sector increased by 116 per cent at current prices and 76 per cent at constant 1993 prices from 1989 to 1997 (Table 2.8). However, the extent of increase in farm assets heavily exceeded the magnitude of increase in farm liabilities over that period (Table B-15), as dairy farm data

¹³¹ During that period, average land prices declined in the USA, Britain, Canada and elsewhere due to a higher real interest rate which was an outcome of a stronger monetary policy.

suggests. Total liabilities, as a percentage of assets, dropped from 33 per cent to 24 per cent over the same period. Thus it appears that increased indebtedness in rural New Zealand was associated with increased capital investment in recent years.

Table 2.8
Amount of Outstanding Loans in Rural New Zealand

Year	CPI*	Outstanding claims (NZ \$ million)	
		(Current \$)	(Constant \$)
1989	867	5627	6490.2
1990	928	5917	6376.1
1991	970	5547	5718.6
1992	978	6441	6585.9
1993	987	7400	7497.5
1994	1000	8669	8669.0
1995	1040	9701	9327.9
1996	1063	12147	11427.1

* Base December quarter 1993 (=1000).

Source: *Reserve Bank Bulletin* (different issues) and author's calculation.

4.3.9 Research and Extension

Until the early 1980s the government, through the Ministry of Agriculture and Fisheries (MAF), directly funded agricultural research and extension services in New Zealand. The Farm Advisory Division of the MAF was performing the job of agricultural extension, while the Research Division of the MAF was responsible for agricultural research. These two services were considered as a public good¹³² that used to be provided by the government in the public interest. All extension, inspection, research and demonstration activities were directed to the farming sector on a non-chargeable basis. The government continued to pay for research and extension to boost agricultural production for higher export earnings.

After 1985, charges for services like meat inspection and extension were introduced. The Advisory Services Division of the MAF was merged with the MAF's Research Division in 1987 to strengthen the linkage between the two services.¹³³ The amalgamated division was named as MAF Technology. Although some benefits were gained from this amalgamation, some problems were also faced due to difference in culture between the two services. In mid 1990, MAF technology was renamed as Management Consultancy Service with a view to privatising it in the near future.

The privatisation of Agriculture New Zealand (Extension Division) occurred in February 1995. Government, through regular tendering, sold out the extension division to Wrightson Limited, the largest company of the New Zealand stock exchange. Following the privatisation, agricultural extension services have been running on a complete commercial basis.¹³⁴ Meanwhile, in July 1992, the Research Division of MAF¹³⁵ was restructured forming

¹³² Knowledge of new agricultural technology is a public good because it is transmitted from one farmer to another without reducing its benefits to any one. Someone who does not pay for it can not be totally excluded from its benefits.

¹³³ It was thought that the merger would facilitate more commercial gains from the results of research.

¹³⁴ For further discussion, see Journeaux (1998) and Ritchie (1995).

10 Crown Research Institutes (CRIs)¹³⁶ under the Ministry of Research, Science and Technology (MORST).¹³⁷ Since then, the CRIs bid with other institutions and private companies for research funding from the Public Good Science Fund (PGSF) channeled through the Foundation for Research, Science and Technology (FRST).

With the privatisation of the agricultural extension system, many advisors lost their jobs due to downsizing the staff strength. Many advisors resigned from their job during the transition and entered into private enterprise of their own choice. There were 450 extension advisors in the mid 1980s (Ritchie, 1995) with the Advisory Services Division of the MAF, most of them graduates in agriculture/horticulture. By the time the division (Agriculture New Zealand) was handed over to Wrightson Limited, only 80 advisors remained. Currently, the number has increased to 100 making Agriculture New Zealand Limited the largest agricultural consultancy business in the country. There are other private organisations employing extension advisors for on-farm work. Nevertheless, the total number of advisors has significantly reduced in recent years compared to that in early 1980s or 1970s (Journeaux, 1980).¹³⁸ Undergraduate and postgraduate studies in agriculture/horticulture do not seem to be attractive to the students of this decade. Two universities specialized in agriculture, namely Lincoln University and Massey University, have been gradually transforming into general universities.

As the number of field level extension advisors has declined, the quantum of extension services provided has also declined after privatisation.¹³⁹ Those who could pay for the visit and advice of extension consultants have received the service.¹⁴⁰ Naturally, they were the large resourceful farmers. Others remained generally deprived from direct contact of extension agents. However, the quantity of extension work significantly improved where contractual agreement could be established. The farmers reported that the extension advisors were more committed to work in recent years than ever before.¹⁴¹ A strong performance pay system might have contributed to improve the quality of extension work. During a field visit, an extension adviser was found to have maintained a very tight work schedule.¹⁴² While asked why they work so hard, a young horticultural consultant at Nelson said, "My salary increases with an increase in my revenue earning". In contrast, a poorly performing consultant is sure to

¹³⁵ Also the Department of Scientific and Industrial Research (DSIR), the Forestry Research Institute (FRI) and the research section of the Meteorological Service were included in the restructuring.

¹³⁶ The CRIs are: New Zealand Pastoral Agricultural Research Institute Ltd, New Zealand Institute for Crop and Food Research Ltd, The Horticulture and Food Research Institute of New Zealand Ltd, New Zealand Forest Research Institute Ltd, Landcare Research New Zealand Ltd, Institute of Geological & Nuclear Sciences Ltd, Industrial Research Ltd, National Institute of Water and Atmospheric Research Ltd, Institute of Environmental Science & Research Ltd and New Zealand Institute for Social Research and Development.

¹³⁷ The CRIs were established as companies under the MORST to operate on a commercial basis. The general direction and guidance of those companies were vested in an independent Board of Directors. Fifty per cent of the shares of these companies were purchased by the Minister of CRIs and the other 50 per cent by the Minister of Finance. More information can be obtained from MORST (1994) and Aldwell (1998).

¹³⁸ The restructuring in the forestry sector has resulted in more than 50 per cent of jobs being declared surplus.

¹³⁹ For similar observations, see Journeaux (1998).

¹⁴⁰ A large farmer in Whenuapai, Auckland reported that he calls an extension adviser once a month and pays NZ\$100 per hour for each visit to his tomato producing farm. However, his neighbouring small farmers reported that they do not call an expert to visit their farms. An orchardist told that he never called an extension adviser to visit his farm after privatization of the extension system but he receives necessary advice from the input supplier free of charge (input suppliers in New Zealand employ agricultural specialists to advise their customers). An extension adviser affiliated with Agriculture New Zealand said that he lost 70 per cent of his clients after the introduction of the user payment system. Most of them were small farmers.

¹⁴¹ Several farmers at Canterbury, Dunedin, Queenstown and Auckland said that the extension advisers are now more serious and useful, and work much harder to earn the revenue.

¹⁴² One day work schedule of an extension adviser associated with the Agriculture New Zealand Limited is enclosed as Appendix C. The names and addresses of those who were contacted or interviewed in the field are not given due to their desire to remain anonymous.

lose in the race as he is more vulnerable to a reduction in base salary or being made redundant at a certain point of time.¹⁴³

The main business of Agriculture New Zealand Limited is on-farm consultancy that accounts for around 50 per cent of the total earnings. Other important businesses include technology transfer, rural intelligence gathering and facilitation, training courses on agriculture and horticulture and consultation to agribusiness. The company earns a significant amount of money from the government, particularly from MAF for contractual services. Ritchie (1995; p. 31) claims that "this system has the potential to be more effective than the government employing extension staff directly in the Public Service".

Expenditure for agricultural research is largely met by the government under the Public Good Science Fund (PGSF).¹⁴⁴ About half of the PGSF allocation is devoted to agricultural research. The FRST distributes the fund among CRIs and others through a contestable process. Those proposals are funded by the FRST which have relevance to the science priorities set by the government. Independent referees and an expert advisory committee examine the quality of research proposals before they are approved for PGSF allocation.

In addition to PGSF allocation, the CRIs receive funds from MAF and other concerned government departments for operational research. Moreover, the private sector provides funds to CRIs mainly for applied research, which is largely focused on solving specific problems. The proportion of private sector funds to total funds has been little over 30 per cent in recent years.

The total expenditure on research in New Zealand accounted for 0.9 per cent of the GDP in the early 1990s (MORST, 1994). This figure was much lower than that of the OECD average (1.7%) for the corresponding period. The expenditure on research has declined by 27 per cent during the 1980s in New Zealand compared to a corresponding increase of 56 per cent in the OECD countries. A senior scientist of New Zealand has described 1980s as a "dark age of New Zealand science" (Aldwell, 1998; p.7).

Reorganisation of the science and technology sector has established accountability in research and development (R & D) activities on agriculture. At the same time it has narrowed the horizons of research; research institutes have almost abandoned fundamental research on agricultural sciences. Job tenure of scientists has become more insecure and lobbying for raising or maintaining funding has been very intensive in recent years.¹⁴⁵ Many scientists believe that the act of contesting for core research funding has resulted in a heavy loss of research time, perpetration of unnecessary tensions and overall a disturbed research environment in New Zealand.¹⁴⁶

¹⁴³ The usual base salary of a Consultant at entry level is NZ\$25,000 per year. To get that salary, he/she has to earn a revenue of NZ\$50,000 per year. When she earns more than the stipulated revenue, she will get 50% of additional revenue added to her base salary. When she earns less than the stipulated amount, she will initially get a warning. If she continues to earn less, her base salary will be reduced and ultimately she will lose her job. A Consultant has to fill in a Profit and Loss account every month clearly indicating her targeted and actual earnings and expenditures.

¹⁴⁴ The Public Good Science Fund (PGSF) for 1997/98 was \$282 million. This fund is used for research that is likely to increase knowledge of the physical, biological or social environment, which may be of benefit to New Zealand, but is unlikely to be funded from non-government sources.

¹⁴⁵ For a detailed description of advantages and disadvantages of the initial reform of the science sector, see Aldwell (1998).

¹⁴⁶ Commenting on the new system of research funding, a scientist of the Horticulture and Food Research Institute of New Zealand Limited said, "we are annoyed and have an angry reaction to it".

After the privatisation of agricultural extension services and reorganisation of the research system, the link between research and extension became very weak. According to Johnson (1994; p. 23) the reorganisation has "left technology transfer a poor orphan".

4.3.10 Management

Recent policy reform in New Zealand has resulted in loss of job security for senior public servants. They lost guaranteed job tenure and entered into renewable annual contract service. Two pieces of legislation, the State Sector Act of 1988 and the Public Finance Act of 1989, have made this change obvious. The State Sector Act of 1988 introduced a system of contracting Chief Executives of government departments by the Ministers for delivery of services as outputs. A Chief Executive Officer (CEO) then contracts the staff of the department to deliver the outputs. The Public Finance Act of 1989 introduced full accrual accounting systems throughout the Public Service. It replaced the traditional input based system with an output based system. As a part of the government machinery, the bureaucracy in the Ministry of Agriculture and Fisheries (currently the Ministry of Agriculture and Forestry) has also been affected by this legislation. The change in management structure of the government stemmed from Public Choice Theory.¹⁴⁷ This theory focuses on establishment of supremacy of public representatives over the bureaucracy.¹⁴⁸ It assumes concentration of power in the hands of elected representatives so that they are able to effectively serve the people's interest in public policy. Under the new system, the CEO is directly accountable to the Minister and the cabinet for his policy advice and departmental performance. Previously, the State Services Commission (SSC) used to appoint the CEO in consultation with the Minister. The Minister had little say in delivery of policy advice. Thus the new system of accountability of the CEO is a clear departure from the traditional Westminster system (Johnson, 1994). Under the Westminster system, the Minister takes the decision while the bureaucrats advise the Minister and implement his decisions. Since the bureaucrats have their own interest for survival, it is unwise to let them work as both advisors and policy implementers.¹⁴⁹ On this ground, the advisory, regulatory and delivery functions were separated out and given to different agencies. In agriculture, MAF remained responsible mainly with policy advice to the Minister.

The CEO of MAF is designated as Director General, who is supported by a Deputy Director General and several Directors. A Group Director, who is supported by five Directors (External, Domestic, Science, Agribusiness and Rural), heads the policy branch of MAF.

Most of the policy positions in MAF are filled by professionals having degrees up to PhD level in different branches of agriculture.¹⁵⁰ The need for pragmatic policy advice on agriculture has put an agricultural economist in the position of Director General/Chief Executive Officer of MAF in New Zealand.

¹⁴⁷ For discussion on Public Choice Theory, see McLean (1987), Stretton and Orchard (1994), and Rowley (1987).

¹⁴⁸ The power of bureaucracy is further curtailed by the managerial theory that focuses on primacy of managerial principles over bureaucracy. The line managers are made free from executive controls of bureaucracy under a reformed management.

¹⁴⁹ The Treasury of New Zealand argued "bureaucrats have a vested interest in their own survival; they should not both advise their Ministers and implement policy at the same time (The Treasury, 1987; p. 75).

¹⁵⁰ The agriculture staff in MAF policy positions number around 100. The major policy analysis on macro-economic issues is concentrated in the Treasury (Ministry of Finance). It employs about 200 policy analysts and managers that accounts for about 15 per cent of the government's expenditure on policy advice (Storey, 1996).

4.4 Poverty and Inequality

After economic reform in 1984, the growth in GDP fell and unemployment rose. This would mean that the incidence of absolute poverty has risen after reform. Stephens *et al.* (1995) showed that the incidence of poverty more than doubled from 4.3 per cent in 1984 to 10.8 per cent of households in 1993. The authors showed further that the poverty rates were well above the average for Maori and Pacific Islanders.

There was a serious deterioration of the poverty rate in the early 1990s due to benefit cuts, which were in action since 1991. Easton (1995) showed that the incidence of poverty rose by about 35 per cent between 1989-90 and 1991-92. During that period, social welfare benefits were reduced by 24.7 per cent (Dalziel and Lattimore, 1996) and its impact was largely felt by low income groups. Consequently, the rate of poverty sharply increased.¹⁵¹

After 1993, economic growth has accelerated and the unemployment rate has reduced. But at the same time, the cost of living, including the expenses for health and education, have increased. Thus the average standard of living of the poor people might not have significantly changed even in the most recent years.

In a competitive economy, the demand for skilled labour increases at the expense of unskilled labour. The income of efficient people increases much faster than the less efficient ones. This has a negative effect on the distribution of income. This suggests that the inequality of income would have increased due to recent economic reform in New Zealand.

Table 2.9 presents data on the distribution of income in New Zealand over time. It can be noticed that the share of low-income groups (up to 8th decile) in total income have declined but the share of the high-income group (top decile) has increased. It is interesting to note that the gain in income share was higher for the top 5 per cent of people. This indicates that the rich are becoming richer and the poor becoming poorer after the recent economic reform.

The concentration of income, as measured by Gini coefficient, increased from 0.353 in 1983/84 to 0.382 in 1991/92, and further to 0.404 in 1995/96 (Podder and Chatterjee, 1998). The increase in income concentration was very strong during the late 1980s and early 1990s. This was related to a sharp decline in income share of the low-income groups and a rise in that of the top 10 per cent.

The decline in the share of total income at the bottom was mainly due to a rise in unemployment and diminished welfare. The 1988 income tax cuts at the top income levels without a comparable cut at the bottom, has contributed to a rise in the share of total income for the top. Further, the high rate of interest has accelerated accumulation of investment income at the upper bracket. Thus the economic reform in the late 1980s and early 1990s has led to substantially greater economic inequality (Easton, 1996).

The magnitude of increase in the concentration of income seemed to have slowed down in recent years, as the Gini-coefficient for 1995-96 suggests. This was mainly due to a decline in the unemployment rate. However, a large increase in the share of income of the richer section without a proportionate increase in the share of income of the poorer sections has widened the overall distribution of income indicating that fortune continued to favour the better skilled people in the post reform job market.

¹⁵¹ For further discussion, see Dalziel (1997).

Table 2.9
Magnitude of Income Inequality Over Time, New Zealand

Decile of population	Share in total income (%)		
	1983/84	1991/92	1995/96
Lowest	2.05	1.63	1.71
Second	4.25	3.87	3.73
Third	5.45	5.15	4.82
Fourth	6.56	6.27	5.79
Fifth	7.57	7.37	6.88
Sixth	8.85	8.55	8.26
Seventh	10.55	10.29	10.09
Eighth	12.94	12.85	12.61
Ninth	16.16	16.62	16.47
Tenth	25.62	27.39	29.61
Top 5%	15.28	16.97	19.04
Gini Coefficient	0.353	0.382	0.404

Source: Podder and Chatterjee (1998).

Table 2.10
Place of New Zealand by Human Development Index

Country	HDI Rank 1994	HDI Rank 1990
Canada	1	2
France	2	10
Norway	3	6
USA	4	7
Iceland	5	3
Netherlands	6	8
Japan	7	9
Finland	8	13
<i>New Zealand</i>	9	15
Sweden	10	4
Spain	11	20
Austria	12	17
Belgium	13	16
Australia	14	9
United Kingdom	15	11

Source: Statistics New Zealand (1998b).

Although poverty of the low-income groups has increased and income inequality has widened after reform, the general living standard of the population has improved over time. This was due to an increase in real per capita income. Moreover, the share of women in total income increased (from 30.8 per cent in 1981 to 37.9 per cent in 1991), due to an increase in their number in the paid labour force. Also, public expenditure in health and education increased. All these have contributed to an improvement in the human development index (HDI)¹⁵² which is captured in Table 2.10. New Zealand was in 15th position in 1990 among world nations; its position was lifted to 9th in 1994.

¹⁵² It has three components — longevity (based on life expectation); knowledge (measured by mean years of schooling and adult literacy) and income (real GDP per capita). The United Nations Development Programme has used HDI as a composite measure of socio-economic progress of nations since 1990.

CHAPTER FIVE

FINDINGS FROM CASE STUDIES

5.1 Nature of the Two Cases

Bangladesh and New Zealand are located in two different continents. The geographical distance is very wide between the two countries. The population density is very high in Bangladesh, but very low in New Zealand.¹⁵³ The stage of economic development greatly differs from one country to the other. Bangladesh is one of the poorest and New Zealand is one of the richest countries of the world. Besides, there are differences in the levels of cultural and human development between the two countries.

Despite these important differences, there are some common links between Bangladesh and New Zealand. Both are small democratic countries.¹⁵⁴ Both were under British rule for a long time and are now members of the Commonwealth. The economic foundation of both countries is based on agriculture.¹⁵⁵ There was considerable state intervention in the economy of both countries during the 1970s and public policies supported agriculture for higher production and growth up to the early 1980s. Since the mid 1980s, agricultural support and subsidies were withdrawn from both countries.

Bangladesh is a food deficit country while New Zealand produces surplus for export. Most of the development in the agricultural sector occurred in New Zealand during British rule, under direct patronisation of the rulers. Nature is quite favourable to New Zealand for pastoral production. In contrast, there was hardly any development of Bangladesh agriculture during the colonial rule and the country experienced a gradual decline in agricultural production during that period. Floods and other natural disasters occur at frequent intervals in Bangladesh destabilising agricultural production.

The nature of economic reform was gradual in Bangladesh but was radical in New Zealand. The speed of reform was fairly slow in the former, but was quite rapid in the latter. Reform started in Bangladesh in the late 1970s and continued over the 1980s and 1990s. In New Zealand, reform started in mid-1984 and was almost completed in mid-1994. The impact of reform on the macro-economy and on agriculture was, however, almost similar in the two countries.

¹⁵³ The population of Bangladesh is about 30 times higher than that of New Zealand.

¹⁵⁴ However, the area of Bangladesh is only about a half of New Zealand.

¹⁵⁵ Agriculture in Bangladesh is dominated by crop production, while agriculture in New Zealand is dominated by livestock production.

5.2 Macro-economy

5.2.1 Structure of the Economies

Economic structure has undergone significant changes over time in Bangladesh and in New Zealand. The primary sector has experienced a long-term decline in its share to GDP, while the tertiary sector has experienced a steady increase in both countries. The contribution of the secondary sector to GDP has remained almost stagnant over the years.

The economic reform seemed to have contributed to a speedy decline in the agricultural sector's share in Bangladesh but has recently helped stabilise this sector's share in New Zealand. The share of industries in GDP has stagnated in Bangladesh after reform, but has fallen in New Zealand. In both these countries, the long-term decline in the agricultural sector's share of GDP has been compensated for by an increase in the contribution of the services sector, not by industries.

The stagnation of the industrial sector is not conducive to sustained economic and employment growth. An expansion of this sector may be possible through import restriction but it is not desirable in an open economy. Increased globalisation means that only the most efficient industries will survive in competition. Those that are not good enough in developing new technology and capturing new markets will not be profitable. Some of those industries will gradually decline and others will cease to exist. Under such circumstances, an option would be to attract foreign direct investment and invite multinational corporations for industrial development. This option was successfully tried in some of the East Asian countries that resulted in rapid industrialisation. Other countries can follow the same path, learn from their experiences, and use foreign capital and skills for their own industrial development.

5.2.2 Growth of Economy

Both Bangladesh and New Zealand have enjoyed a high growth rate of GDP in the pre-reform period. During the period of economic reform, growth slowed in both countries. Since the early 1990s, the economy has recovered and the growth rate accelerated. Bangladesh achieved an average growth rate very close to the Asian average, while New Zealand exceeded the OECD average. In recent years, however, the growth rate of GDP has again slowed down in New Zealand. This raises a question about the sustainability of economic growth after a radical economic reform.

5.2.3 Savings and Investment

As the economy achieved a better growth rate during the 1990s, savings and investment rates increased in both countries. Bangladesh experienced a significant growth in both savings and investment, much of which was contributed by the private sector. However, the saving and investment rates, as percentages of GDP, are still lower in Bangladesh compared to averages of other Asian countries. In New Zealand, savings and investment rates moderately improved during the 1990s after experiencing a decline in the mid-1980s. The recent investment rates of New Zealand have exceeded the OECD average rate.

5.2.4 Inflation Rate

The rate of inflation was very high in both Bangladesh and New Zealand during the 'stagflation' period of the 1970s and early 1980s. With the tightening of the monetary sector in the late eighties and early 1990s, inflation rates declined in both countries. The Bangladesh inflation rate fell below the Asian average while the New Zealand inflation rate fell below the OECD average.

The Reserve Bank of New Zealand Act 1989 provided the Bank with complete control over the monetary policy. This was very helpful in maintaining price stability. The Policy Target Agreement (PTA) between the Minister of Finance and the Bank Governor ensured achievement of inflation targets during the 1990s. Thus New Zealand provided a good example of controlling high inflation rates that can be followed by other countries of the world.

5.2.5 Foreign Exchange Reserve

The level of foreign exchange reserve was very low in both countries before reform was initiated. It has substantially improved after reform. An increase in foreign exchange build up was particularly necessary for a country like Bangladesh, which is vulnerable to national calamities and is relatively dependent on imports, including food imports. Recent tightening of monetary policy has ensured the minimum reserve level, although erosion has occurred in most recent years mainly due to a decline in aid disbursement and outflows of foreign portfolio capital.

5.2.6 External Balance

The liberalisation of international trade has resulted in an improvement in the terms of trade in Bangladesh and New Zealand. Consequently, the trade balance and current account balance improved in both countries. In Bangladesh, the rate of increase in exports superseded the rate of increase in imports. Thus, the trade deficit reduced over time. In New Zealand, the trade surplus markedly increased towards the second half of the 1980s due to favourable terms of trade but started to decline in the early 1990s mainly due to an overvalued exchange rate that resulted in substantial losses in export market share.

5.2.7 Fiscal Balance

Recent fiscal reforms in Bangladesh and New Zealand have contributed to an improvement in fiscal balance. In Bangladesh, government expenditure as a proportion to GDP fell but revenue earnings increased, mainly due to the introduction of VAT. Consequently, the country's fiscal deficit narrowed in the 1990s. In New Zealand, both revenue and expenditure declined, but the decline in government expenditure was much larger than the decline in revenue earnings. As a result, the country witnessed a net financial surplus during the mid-1990s. The Fiscal Responsibility Act of 1994 required the government of New Zealand to run budget surpluses over a reasonable period of time. This is certainly a positive step towards self-reliance that helps reduce the necessity for external assistance.

5.2.8 Overseas Borrowing

With an improvement in the financial balance, the extent of public overseas borrowing has declined in both countries. However, borrowing from the domestic market increased. The magnitude of overseas borrowing, as a percentage of GDP, is higher in Bangladesh than in New Zealand. The situation is just the reverse in the case of domestic borrowing.

An increase in public overseas borrowing may sometimes help rapid economic growth, as it has been observed in some of the Asian countries.¹⁵⁶ In that case, the quality of public investment programmes has to be ensured. If the quality of investment can be maintained at a high level, the pay off from such investments can lead a country towards self-sufficiency and full employment through high domestic savings and investment in the future.

5.3 Agriculture

5.3.1 Composition of Agriculture

The agricultural sector lays the foundation of national economy in Bangladesh and New Zealand. In Bangladesh, the agricultural sector is composed of crop and non-crop (livestock, fisheries and forestry) sub-sectors, while in New Zealand it includes pastoral, horticultural, vegetables, crops and other sub-sectors. Bangladesh agriculture is dominated by the crop sub-sector, but New Zealand agriculture is dominated by the pastoral (livestock) sub-sector. In recent years, Bangladesh agriculture has tended to diversify towards non-crop agriculture and New Zealand agriculture has diversified towards vegetables and horticulture. The share of the agricultural sector to GDP, employment and export earnings has declined over time in both countries. However, the decline in agriculture's share of GDP seemed to have halted in New Zealand in most recent years.

5.3.2 Growth in Agriculture

Recent economic reform in Bangladesh and New Zealand has resulted in a withdrawal of subsidies from agriculture. Initially farmers responded with a cut in the use of farm inputs. This has led to a decline in agricultural growth rates in both countries. In Bangladesh, total agricultural production increased, but the trend growth rate in agricultural output has declined over time. In New Zealand, both production and growth rates have declined. The profitability of farm production has significantly dropped in both countries. In recent years, total production and farm profitability have been increasing. However, given the most vulnerable nature of agriculture and frequent fluctuations of its production, the sustainability of an increase in production and profitability remains to be seen.

Bangladesh is a food deficit country, while New Zealand produces surplus for export. Bangladesh would benefit from a low world price of food materials, mainly cereals and milk fats, which it imports. New Zealand would like to see world prices go up for its agricultural exports. A decline in agricultural production would mean a fall in the supply of agricultural commodities in the world market. This would push prices of farm products upward benefiting New Zealand. Thus a policy of withdrawing farm support and subsidies seems appropriate for

¹⁵⁶ South Korea obtained more than US\$500 per capita as economic and military assistance from the United States between 1946 and 1976. The amount of aid was US\$425 per capita for China and Taiwan. Foreign direct investment accounted for 20 per cent of gross domestic investment in Malaysia (Leipziger and Thomas, 1993).

New Zealand. But such a policy is likely to have adverse economic, social and political consequences in Bangladesh.

The problem confronted by the New Zealand economy in the early 1980s was a huge surplus in farm production and a depressed world price. Therefore, the agricultural sector came in the front-line of reform. All support and subsidies were withdrawn to expose the farm sector to the world market, so that world demand and market price guided production decisions. In Bangladesh, the donors imposed a policy of withdrawing farm subsidies at a time when the country was facing substantial deficits in food production. As the policy was implemented, the growth rate in farm production fell. The country became more exposed to the world market for agricultural imports. A policy of continued subsidisation of agricultural inputs up to the attainment of self-sufficiency in agricultural production particularly in cereal production, would have been an appropriate policy for Bangladesh. The General Agreement on Tariffs and Trade 1994 expressed concern over the food security issue and made provision for special and differential treatment of the least developed and net food-importing developing countries in the matter of removing agricultural input subsidies. The Agreement states, "investment subsidies, which are generally available to agriculture in developing country members and agricultural input subsidies, generally available to low-income or resource-poor producers in developing country members, shall be exempt from domestic support reduction commitments" (World Trade Organisation, 1994; p. 46).

5.3.3 Agricultural Exports

Bangladesh and New Zealand are two traditional exporters of agricultural products. Bangladesh's agricultural exports include jute and jute goods, fish and shrimp, leather, and tea. New Zealand's agricultural exports include wool, meat and dairy products. At the initial stage of policy reform, the growth in agricultural exports significantly declined in both countries. In recent years, the growth in agricultural exports has recovered in Bangladesh but a strong growth in agricultural imports has more than offset the benefits of increased agricultural exports. In New Zealand, the growth of agricultural exports continued to decline even in recent years. It appears that the prospect of improving the trade balance through the export of agricultural products has become limited after economic reform. Therefore, the traditional agricultural exporting countries are likely to face trade deficits unless they diversify their export base in order to improve the trade balance in future.

5.3.4 Expenditure in Agriculture

As subsidies were withdrawn after policy reform, expenditure in agriculture significantly dropped in both countries. The share of agricultural sector to total public development expenditure in Bangladesh declined from 31 per cent in 1973-78, to 20 per cent in 1995-96. In New Zealand, the expenditure incurred by the Ministry of Agriculture declined from about 13 per cent of gross agricultural output in 1984, to less than 2 per cent in the 1990s. Consequently, the growth rate in agricultural production and export declined in both countries.

Reducing government expenditure was strongly protested in Bangladesh and New Zealand. In Bangladesh, resolutions against removal of agricultural subsidies were passed by the Bangladesh Agricultural Economists' Association and the Krishibeed (Agriculturists) Institution, Bangladesh, and were made open to the public through national dailies. The Bangladesh Awami League organised rallies in the capital and in other parts of the country protesting the price hike of agricultural inputs. In New Zealand, a large number of farmers

attended a protest march towards Parliament. A group of academic economists from Auckland University strongly opposed the cut of public expenditure in the midst of a deep recession.¹⁵⁷ However, the process of withdrawing all support and subsidies to reduce public expenditure continued in both countries. Whilst Bangladesh and New Zealand withdrew agricultural subsidies, Japan has increased their level of agricultural assistance. Other OECD countries continued to maintain the farm support at a high level. The magnitude of producer subsidy equivalents increased in the European Union.

In 1997, the European Union provided a support of NZ\$68.5 billion to agricultural commodities which was 44 per cent of the EU budget (Saunders, 1998). They paid an amount of about US\$414 per hectare in 1997 for keeping land out of production so that there was a significant drop in output to push world prices of agricultural products to a higher level. The proportion of arable area to be kept under compulsory set-aside¹⁵⁸ varied from year to year. During the early 1990s, a farmer had to keep at least 15 per cent of arable land under set-aside in order to get compensation for the fall in cereal prices by arable area payments. Saunders (1994) showed that there was an estimated drop in output of 9.4 per cent in the EC (12) due to compulsory set-aside.¹⁵⁹

When a significant percentage of the world population suffers from malnutrition and many people die of starvation in the food-deficit developing countries, a decline in the growth rate of food production could be viewed as a threat to world food security. Thus a policy of complete withdrawal of support from agriculture needs to be carefully scrutinised in the context of food deficit countries. In developed countries, the proportion of people living in rural areas has been declining over time. Withdrawal of all support from agriculture is likely to have a consequence of speeding up this process.

When food-exporting developed countries cut input subsidies and pay compensation for both mandatory and voluntary set-aside to reduce farm production, food importing developing countries should provide input subsidies to increase farm production. This will make a balance in world agricultural production and stabilise prices. Otherwise, there will be a shortfall in world food supply and prices of farm products will go beyond the reach of the food importing developing nations. As a result, hunger and malnutrition will increase in food deficit poor countries.

Encouraging farmers by cash payment for not producing food, is a very crude policy indeed. Participating in a debate at the Agricultural Council in Luxembourg, French Farm Minister Philip Vasseur warned the members saying that the EU would bear "heavy responsibilities for European agriculture and world food security" (Agra Europe, 1997; p. E/7).

¹⁵⁷ Such opposition was observed even in England and in the USA, from where policies of reform developed. In Britain, 364 economists from different universities condemned the policy of Mrs Thatcher's government in 1981. A wave of strong criticism emerged among economists in the USA against the Reagan administration for promoting unequal distribution of income and wealth through reform (Henderson, 1995).

¹⁵⁸ Those farmers producing more than 92 tonnes of arable crops are required to set-aside land (OECD, 1997c).

¹⁵⁹ In recent years, the proportion of compulsory set-aside declined but the proportion of voluntary set-aside increased.

5.3.5 Research and Extension

The agricultural research and extension system has undergone several changes in both countries. Currently these services are administered separately under different systems of management. In Bangladesh, research and extension are considered as a public good and are provided by the government. In New Zealand, the extension system has been privatised, but the government is still largely responsible for funding research.

The privatisation of agricultural extension services in New Zealand has resulted in a decline in the number of extension advisors and a reduction of quantum of extension work, but an improvement in the delivery of services where a contract has been made. The benefits of extension services seemed to have been accruing mainly to large farmers who can pay for it.¹⁶⁰ In Bangladesh, all farmers have equal access to extension services, but person to person contact by extension agents is still poor. Recent reorganisation of the extension system seems to have improved participation by farmers in the extension process through group meetings. But its effectiveness is yet to be seen.

Agricultural research is carried out by 10 Research Institutes in Bangladesh. They are administered by 4 different ministries and coordinated by the Bangladesh Agricultural Research Council (BARC). In New Zealand, there are 9 Crown Research Institutes (the New Zealand Institute for Social Research and Development was closed in 1994) where agricultural research is being conducted in some form or other. They are administered by the Ministry of Research, Science and Technology (MORST) and funded through the Foundation for Research, Science and Technology (FRST). Research funding in New Zealand is fully contestable, while in Bangladesh it is partially contestable. Core research funds are directly channeled to the Institutes by concerned ministries in Bangladesh, but the Institutes compete for contract research funds administered by BARC.

Funding for research through open competition ensures transparency and accountability. At the same time it politicises the research environment and lobbying for funds becomes a regular feature which kills valuable time and energy. This may result in loss of experienced researchers who do not like the bureaucratic system of research management and frequent reporting of spending and achievements to several organisations/ministries. Nevertheless, it seems to be a sound policy to keep all research organisations under one ministry and avoid multiple accountability.

Research organisations have a different culture. Pure commercialisation of research does not seem feasible at any stage of development. However, injection of private funds into the research system may encourage innovation and help develop a user friendly research environment, as has been observed in New Zealand where about one third of the research funds come from the private sector.

The State Sector Act of 1988 has introduced a system of contracting the Chief Executive of MAF on a fixed term basis and he is then directly accountable to the Minister. This is a departure from the traditional Westminster system, but the system seemed to be useful in establishing supremacy of public representatives over bureaucracy in an effective term.

¹⁶⁰ The outcome has been similar in the UK, where the agricultural extension system was privatized after about a year of privatization in New Zealand. A senior Extension Adviser of England, while contacted, added dimension to the problem. In his opinion, team spirit and innovativeness are gone after privatization. All advisers are running after their own interest and immediate benefits. However, the farmers who take advice on payment have tended to adopt them in the field in 90% cases. This was not more than 10% before privatization, when extension advice was delivered to farmers free of cost.

Moreover, the line manager enjoys more freedom from executive controls of bureaucracy under the changed system of management. The MAF is mainly responsible for policy advice to the Minister. Professional agricultural experts/agricultural economists fill most of the policy positions in MAF, and MAF publications/policy papers are largely distributed to the academic circle. This system seemed to have been working well in providing pragmatic policy advice to the Minister as well as creating a transparent, productive and healthy working atmosphere in the agriculture sector.

5.4 Poverty and Inequality

The magnitude of poverty is high (50%) in Bangladesh and low (10%) in New Zealand. It has diminished in Bangladesh due to recent expansion of anti poverty programmes targeting the poor. But the extent of poverty has increased in New Zealand due to a reduction in social welfare benefits in the early 1990s. In both countries the incidence of poverty is seen as a consequence of low level income of the poor which can be avoided through special policy measures for employment creation, income generation and expansion of social benefits. The burden of poverty is unlikely to be reduced without having public policy intervention targeting the poor.

The magnitude of income inequality has increased in both countries over time. Recent economic reform has contributed to worsening the situation. In most developed countries,¹⁶¹ where reform has been carried out, the income gap between the rich and the poor has widened (OECD, 1997d). This was due to a reduction in employment prospects for the unskilled, which was reflected in greater inequality of disposable income. However, the situation was opposite in high performing East Asian countries¹⁶² where reform was accompanied by high growth and reduced inequality. Some of those countries have made the distribution of initial assets less unequal through land reform (for example, South Korea, Taiwan and China). Some of them also invested more on human capital for skill development (for example, Singapore, Hong Kong, South Korea, Taiwan and China). Both measures were helpful in raising the level of income and improving its distribution in those countries.

In a free market economy, an increase in income inequality may not be a matter of great concern unless it is accompanied by an increase in poverty. In most cases, however, they reinforce each other. Appropriate tax-transfer system targeted employment and income generation programmes and higher investment in human capital for skill development and health improvement can help reduce the magnitude of both the social evils at the same time.

Poverty and income inequality are indicators of human deprivation. Poverty is the worst form of deprivation that undermines human dignity and liberty. Reform alone cannot improve the situation without eradicating poverty.

¹⁶¹ For example, Germany, Italy, the Netherlands and the United States. Increased inequality was accompanied by increased poverty in all these countries.

¹⁶² For example, Taiwan, the Republic of Korea, Singapore and Hong Kong. In these countries, the magnitude of poverty declined with reduced inequality.

5.4.1 Global Disparity

An important reason for widespread hunger, malnutrition and poverty in some of the developing Asian countries is the poor resource base. In Bangladesh, for example, land is the scarcest resource. Per capita availability of cultivable land is only 0.2 acres. In contrast, per capita availability of cultivable land is about 7 hectares in New Zealand. In Australia, the figure exceeds 25 hectares. The availability of land is also higher in European countries than in Asian countries. The acute scarcity of land has resulted in high cropping intensity in Asian countries. Farmers work very hard on land, produce several crops a year, but many of them live in absolute poverty. On the contrary, intensity of cropping is low in developed countries. They produce less than would have been produced if density of population had been higher. Such inter-country disparity in asset base results in an under utilization of human and productive resources, sluggish economic growth and an increase in global poverty and income inequality.

The natural growth rate of population is very low in developed countries compared to that of the developing ones. The proportion of population living in rural areas is also very low in developed countries. Due to an increase in urbanization and withdrawal of agricultural support, rural population is likely to decline over time. This may lead to a decline in farm population and a drop in global agricultural production. Thus there is a possibility of an increase in hunger and malnutrition in the future, unless corrective measures are taken.

A remedy to low population, production and depressed economic growth in the developed countries is to increase the number of immigrants from densely populated developing countries and connect them with agricultural production. Unfortunately, there are barriers to the easy flow of population from developing to developed countries. Immigration rules made for human beings are often much tougher than import restrictions imposed on commodities.

Recent globalization in trade has encouraged the flow of commodities from one country to another without protection. It should also focus on an easy movement of human beings through softening the rules for immigration.

CHAPTER SIX

CONCLUDING REMARKS

The Smithian intellectual inheritance has faced repeated challenges from the emergence of several economic crises over the last two centuries. In order to respond to those crises, changes were made in the policies and strategies for economic development. The depressions in the 1880s and 1930s brought about a significant change in the economic policy of nations. Many countries of the world moved from economic liberalism to state activism, and from free trade to protection. However, there has been a reversal of policies after the 'stagflation' of the 1970s. Since then, country after country has turned back to the policies of liberalism and undertaken market reform.

Meanwhile, the world saw another intellectual inheritance originating mainly from Marxism. This became a dominant stream of policy debate during the first half of the 20th century. Many countries in Europe and Asia undertook socialist reform and followed a state controlled, centrally planned economy. However, the late 20th century poor economic performance forced most of those countries to move away from socialism and also undertake market reform.

The contemporary world is now converging towards an open economy. Many countries from both the capitalist and socialist blocs have entered into the process of market reform. In most of the cases, reform was triggered due to an economic crisis (Rodrik, 1996; Campos and Esfahani, 1996). High inflation, low growth and increased public indebtedness were the main causes of the crisis. Such economic problems were the outcome of a substantial policy failure. To overcome the crisis, a new set of policies was required, that would ensure better economic performance. New Zealand is a case where reform was undertaken in a deteriorating economic condition. Other OECD countries, including Australia, Canada, the United Kingdom and the United States, have also resorted to undertake reform measures due to an economic crisis imposed by the 'stagflation' in the 1970s. There are, however, several examples of undertaking market reform after a change in government. Bangladesh is a case of that nature where reform was initiated by army dictators after the removal of a popular government headed by the Bangabandhu in August 1975, through a bloody coup. The case was similar in Chile, where reform was triggered under the dictatorship of General Pinochet after the killing of President Allende in September 1973. In both the countries, however, there was a deteriorating economic condition before the change in government and the coup leaders took advantage of on-going economic crisis to transform the socialistic economy to a market economy. However, such a heinous and painful change is not desirable to human beings and a democratic transition to a market economy is always wanted.

The process of reform has been both radical and gradual during the last two decades. New Zealand, Chile, the United Kingdom, Turkey and the United States, for example, undertook radical economic reform and the reduction in the economic role of their governments was dramatic. On the other hand, Bangladesh and Australia preferred to follow a gradual reform process. It may be argued that for a rich country like New Zealand, a quick reform is necessary. It gives little time for the vested interest groups to be organised and stand against the reform process. However, developing countries with a poor resource base, such as

Bangladesh, should follow a gradual reform process. Otherwise it would be difficult for the people of those poor countries to bear the short-term costs of reform.

The impact of economic reform on growth is negative in the short run (Bresser Pereira *et al.*, 1993). In both Bangladesh and New Zealand, the growth of GDP declined after the initiation of economic reform. It took a reasonable time in both countries to achieve a growth rate above the pre-reform level. Thus a government committed to reform should undertake policy reform immediately after voted to power so that it gets time to recover economic growth during its tenure. It should also try to form a coalition with other political parties supporting reform so that the reforms are successful and durable (Binswanger and Deininger, 1997).

The impact of reform on macro-economic balances is positive. In both Bangladesh and New Zealand, the fiscal balance improved, the current account deficit fell, overseas borrowing was reduced and the foreign exchange reserve increased with the tightening of monetary and fiscal policies. At the same time, inflation rates significantly declined after policy reforms. It appears that countries with a high rate of inflation, fiscal imbalances, external deficits, and high debt levels are likely to benefit immensely from macro-economic reform.

The impact of reform on agricultural production and growth is negative. As the process of agricultural reform was accelerated and subsidies removed, total production immediately fell and its growth rate experienced a long-term decline. The decline in growth was mainly related to a drastic fall in public sector expenditure on agriculture. This was observed in both Bangladesh and New Zealand. There was, however, an exception in Chile where total agricultural production and growth significantly increased after policy reform (Valdes, 1994). This was due to an improvement in the input delivery system without a significant fall in public expenditure in agriculture.

A decline in agricultural production and growth following the removal of subsidies is not a major concern to those who produce surplus for external markets. It is rather beneficial for most OECD countries including New Zealand, not to provide subsidies in farming so that production decisions are determined by the world market price. But for food-deficit countries, such as Bangladesh and Japan, provision for subsidies is required to encourage farm production. When these countries will achieve self-sufficiency in food and start production for the external markets, subsidies may be removed.

A debate still persists whether to provide assistance in the factor or products markets. The experience of most European countries and Japan indicates that assistance in the product market does not provide long-term prosperous and viable agriculture (Valdes, 1994). It fails to increase the income of producers on the one hand and imposes enormous cost to consumers on the other. Thus a better option is to help increase agricultural production by providing assistance in the factor market. This will tend to reduce the inflationary pressure in the food market and benefit consumers.

An important element in agricultural reform is the privatisation of input delivery systems. The experience of Bangladesh, New Zealand and Chile suggests that privatisation results in a quick and competitive input supply system. Consequently, the use of modern inputs increases. Thus a rapid privatisation of input and output marketing system seems beneficial to agriculture. However, some exploitative businessmen may try to earn high profit through their monopolistic position in the market rather than to compete for normal profits. In such a situation, government should intervene. It is therefore necessary to employ public agencies for

closely monitoring the factor and product markets in the private sector and suggesting the nature of intervention.

The process of privatising the agricultural extension system has been in progress in many developed and developing countries. New Zealand and Britain have already completed the privatisation process. A user payment system has been introduced in Chile, where the public sector has been withdrawing from provision of extension services. There are several other countries where a cost recovery system in extension services has been put in place. The experience from those countries indicates that private extension services are efficient. The degree of accountability is higher for private services than for traditional public services. The adoption of extension messages in the farmers' field tends to be significantly higher when they are purchased from the private sector. However, in most Asian countries including Bangladesh, the extension services are largely provided by the public sector. It is argued that the majority of the farm units in Asian countries are small family farms which do not have the surplus to pay for extension services. If the public sector withdraws from provision of extension messages, the process of adoption of new technology will be delayed. This will result in low levels of production, which is not desirable for a food deficit country. However, as the level of adoption of new technology increases and the food deficit diminishes, arrangements may be made for provision of extension services through the private sector. Meanwhile, non-governmental organisations (NGOs), input suppliers and agricultural cooperatives/farmers associations may be encouraged to provide extension services to complement the public sector.

The government largely funds agricultural research all over the world. In the developed countries, the private sector's share in research funding has been increasing over time. About one third of research funds in New Zealand, are currently provided by the private sector. In the developing countries, such as Bangladesh, government is the sole provider of funding for research. However, this funding has been supplemented by NGOs in recent years. Although, the government largely supports agricultural research, there is currently no monopoly of research institutes for generation of public funds. They have to compete with universities, private organisations and individuals for research funding. This does not seem comfortable to those who enjoyed a monopoly under the old system. However, this competitiveness has established transparency and accountability in the research system. But care should be taken in future to keep research awards free from politics and reward those whose research is relevant to the needs of clients. At the same time, efforts should be made to guide all research institutes by the same rules and thus they should be brought under one ministry, as it was done in New Zealand.

Bureaucracy is often regarded as a hurdle to development. In the agricultural sector, bureaucracy can be very harmful because all agricultural activities are closely related to production and development. This problem can be totally avoided by establishing supremacy of elected representatives over bureaucracy. New Zealand has set a good example of contracting Chief Executive Officers (CEOs) of Departments, by concerned Ministers, on a fixed term basis. The CEOs in turn appoint their subordinates on contract for the delivery of required outputs. It is arguable that when the public representatives need to go to their electorates after a stipulated period, for their verdicts, the public servants should also go to their employer for renewal of appointments. There should not be anything permanent in public service because the tenure of an elected government is temporary. Thus the New Zealand model of contracting public servants appears applicable to all democratic countries, particularly in developing countries where bureaucracy is thought to be a major impediment to development. This will ensure the public service system becomes productive, transparent,

accountable and efficient. At the same time, it will stop the rent-seeking process and help establish the rule of law in public administration.

The President of the World Bank, in the mid 1970s, called for judging the records of development not by economic growth but by the extent to which poverty was diminished (Colclough, 1993). In the contemporary world, economic growth has been accelerated in many developed and developing countries. But in many cases, growth was not accompanied by reduced poverty. An increase in income inequality has siphoned off the benefits of growth and thus there was hardly any improvement in the magnitude of poverty. New Zealand is a case where there has been an increase in the incidence of poverty and income inequality with economic growth after policy reform. In Bangladesh, the poverty situation improved but inequality of income increased significantly during the reform period. There are, however, examples of reducing both at the same time in other Asian countries (World Bank, 1993). Recent evidence from East Asia shows that with rapid economic growth, an appropriately designed set of policies for the social sector can reduce poverty and income inequality together. This is also possible in Bangladesh, New Zealand and other countries through increased public investment in the social sector, particularly on education, health care and women. More importantly, provision of safety nets for the poor will help avoid liquidating their productive assets in times of crises. A comprehensive programme of employment creation and income generation targeting the poor will foster growth, reduce poverty, and promote a more equitable distribution of income in society.

This century has witnessed several turns in the economic order of nations. Present interest in an open economy may not be the end of experimentation on development and to the process of change. There may be further changes coming to be incorporated in the strategies for economic development. However, there is hardly any possibility for the nations to revert to a socialist and centrally planned economy, which is “undemocratic, bureaucratic, inflexible and subject to great error and confusion” (Lewis, 1955, p.384). It is argued that a socialist system is inefficient, intolerant to opposition and suppressive in nature. According to Sen (1992), starvation in famine is more severe in a socialist country than in a democratic country. Thus it appears that the possibility of change in future remains within the framework of a market economy.

A market economy guarantees both political and economic freedom. It is democratic, less suppressive, less distortional and more efficient. It ensures personal liberty and establishes the right to free expression of opinion and a free choice in the society.

Bangladesh and New Zealand have recently moved to a market economy. It does not mean, however, that governments of these countries should not intervene on economic matters where and when it is most required. In the case of a developed country, such as New Zealand, the need for intervention is less. But in a developing country like Bangladesh, government must remain more effective to make markets work efficiently, support growth, minimise poverty and reduce income inequality. Almost all of the high performing economies in Asia, except Hong Kong, have been more or less interventionist in character while formulating policies for economic development. Bangladesh and other developing countries have to follow the same path. However, a balance has to be decided between liberalism and interventionism on the basis of economic reality the countries have been facing in recent years.

References

- Agra Europe (1997), "Farm Ministers Press Commission for Lower Set-Aside". *Agra Europe*, No. 1744, 25 April 1997.
- Alam, J. (1988a), "Organizing the Rural Poor and its Impact: The Experience of Selected Non-governmental and Governmental Organizations in Bangladesh". *Economic Bulletin for Asia and the Pacific*, Vol.39, No. 1.
- Alam, J. (1988b), "Income Distribution in Rural Bangladesh: The Effect of Village Organizations with Associated Improved Technology". *Asian Profile*, Vol.16, No.4.
- Alam, J. (1993), "Growth and Target-Oriented Programmes for Poverty Alleviation: An Analysis of Evidence and Suggestions for Future Action". *Farm Econ. J.* Vol.9.
- Alam, J. (1995), *Livestock Resources in Bangladesh: Present Status and Future Potential*. University Press Limited, Dhaka.
- Alam, J. (1996), "Non-crop Agricultural Sector". A paper prepared for IRBD 1996. Centre for Policy Dialogue, Dhaka.
- Alam, J. (1997), "Impact of Smallholder Livestock Development Project in Some Selected Areas of Rural Bangladesh". *Livestock Research for Rural Development*, Vol.9, No.3.
- Alam, J. (1981), *Land Reform in Bangladesh*. Shahitta Prokash, Dhaka.
- Alam, J. (1971), *The Face of Bangladesh in Bloods*. Granthanilay, Calcutta; Third edition (1997), Muktaadhara, Dhaka.
- Aldwell, P.H.B. (1998), "Restructuring of Forest Research in New Zealand: Review, Impacts and Progress". New Zealand Forest Research Institute Limited, Rotorua.
- Asian Development Bank (1996), *Asian Development Outlook 1996 and 1997*. Oxford University Press.
- BAEA. (1991), *Farm Economy*. Vol.8.
- BBS (1993), *Twenty Years of National Accounting of Bangladesh (1972-73 to 1991-92)*. Statistics Division, Ministry of Planning, Dhaka.
- BBS (1997), *Monthly Statistical Bulletins*. Statistics Division, Ministry of Planning, Dhaka.
- BBS (1998), *Household Expenditure Survey 1995-96*. Statistics Division, Ministry of Planning, Dhaka.
- Binswanger, H. P. and K. Deininger (1997), "Explaining Agricultural and Agrarian Policies in Developing Countries". *Journal of Economic Literature*. Vol.35, December 1997.
- Blyn, G. (1966), *Agricultural Trends in India: Output, Availability and Productivity*. University of Pennsylvania Press.

- Bollard, A., et al. (1993), "Introduction". In. Silverstone, B. et al. (eds.): *A Study of Economic Reform: The Case of New Zealand*. Elsevier, Amsterdam.
- Bresser Pereira, L. C. et al. (1996), *Economic Reforms in New Democracies: A Social Democratic Approach*. Cambridge University Press.
- Brus, W. (1972), *The Market in a Socialist Economy*. Routledge & Kegan Paul, London and Boston.
- Cameron, R. (1993), *A Concise Economic History of the World*. Oxford University Press, Oxford.
- Campos, J. E. and H.S. Esfahani (1996), "Why and When do Governments Initiate Public Enterprise Reform?" *The World Bank Economic Review*, Vol.10, No. 3.
- Carney, D. (1998), *Changing Public and Private Roles in Agricultural Service Provision*. Overseas Development Institute, London.
- CDP and DAE (1995), *Annual Report (1994-95)*. DAE, Khamarbari, Dhaka.
- Chowdhury, M.S.U. (1992), "The NARS in Bangladesh: Challenges for the 1990s". Bangladesh Agricultural Research Council, Dhaka.
- Cloke, P. (1989), "State Deregulation and New Zealand's Agricultural Sector". *Sociologia Ruralis*. Vol.29.
- Contado, T. and J. Alam (1985), "Evaluation Report: Strengthening the Agricultural Extension Service (Phase II)". Food and Agricultural Organization of the United Nations.
- CPD (1995), *Experiences with Economic Reform: A Review of Bangladesh's Development*. Centre for Policy Dialogue (CPD) and University Press Limited (UPL), Dhaka.
- CPD (1997), *Growth or stagnation ? Review of Bangladesh's Development 1996*. Centre for Policy Dialogue (CPD) and University Press Limited (UPL), Dhaka.
- CPD (1998), *Crisis in Governance: A Review of Bangladesh's Development 1997*. Centre for Policy Dialogue (CPD) and University Press Limited (UPL), Dhaka.
- Coats, A.W. (1992), *On the History of Economic Thought*. Vol.1. Routledge, London and New York.
- Colclough, C. (1993), "Structuralism versus New-liberalism: An Introduction". In. Colclough, C. and Manor, J. (eds.): *States or Markets ? Neo-liberalism and the Development Policy Debate*. Oxford University Press.
- Dalziel, P. (1997), "Evaluating New Zealand's Economic Reforms: A Comment on Evans, Grimes and Wilkinson". A paper presented at the 1997 Annual Conference of the New Zealand Association of Economists.

- Dalziel, P. and R. Lattimore (1996), *A Briefing on New Zealand's Macroeconomic Reform*. Oxford University Press.
- Dani, R. (1996), "Understanding Economic Policy Reform". *Journal of Economic Literature*, Vol. 34, March 1996.
- Department of Statistics (1984, 1987), *Monthly Abstract of Statistics*. Several issues. Wellington.
- Easton, B. (1995), "Properly Assessing Income Adequacy in New Zealand". *New Zealand Economic Papers*. Vol. 29, No. 1.
- Easton, B. (1996), "Income Distribution". In. Silverstone, B. et al. (eds.): *A Study of Economic Reform: The Case of New Zealand*. Elsevier, Amsterdam.
- European Communities (1997), *Agricultural Statistical Yearbook*. European Communities, Luxembourg.
- Evans, L. et al. (1996), Economic Reform in New Zealand, (1984-95): The Pursuit of Efficiency. *Journal of Economic Literature*. Vol. 34, No. 4.
- Fairweather, J.R. (1998), "Implications and Impacts of Land Use Change". Agribusiness and Economics Research Unit, Lincoln University, New Zealand.
- FAO (1995), *FAO Yearbook – Trade*. Food and Agriculture Organisation of the United Nations, Rome.
- Friedman, M. (1956), "The Quantity Theory of Money – A Restatement". In. Friedman, M. (eds.), *Studies in the Quantity Theory of Money*. Chicago.
- Friedman, M. (1968), "The Role of Monetary Policy". *American Economic Review*, Vol. LVIII, No. 1.
- Friedman, M. (1970a), *The Counter-Revolution in Monetary Theory*. London.
- Friedman, M. (1970b), "A Theoretical Framework for Monetary Analysis". *Journal of Political Economy*, Vol. 78, No. 2.
- GOB (1995), *Bangladesh Economic Review 1995*. Finance Division, Ministry of Finance, Dhaka
- GOB (1997), *Bangladesh Economic Review 1997*. Finance Division, Ministry of Finance, Dhaka.
- Griffin, K. and A.K. Ghose (1979), "Growth and Impoverishment in the Rural Areas of Asia". *World Development*, Vol. 7.
- Griffith, G. R. and S. K. Martin (1988), "Government Livestock Industry Policies: Price Stabilization and Support". Discussion paper no. 116, Agribusiness and Economics Research Unit, Lincoln University, New Zealand.

- Gouin, D. et al. (1994), "New Zealand Agricultural Policy Reform and Impacts on the Farm Sector". Research Report, No. 230, Agribusiness and Economics Research Unit, Lincoln University, New Zealand.
- Hague, W. (1978), "Bangladesh: Problematics of Transition". Bangladesh Economic Association, Dhaka.
- Hall, V. (1996), "Economic Growth". In. Silverstone, et al. (eds.): *A Study of Economic Reform: The Case of New Zealand*. Elsevier, Amsterdam, The Netherlands.
- Henderson, D. (1995), "The Revival of Economic Liberalism: Australia in an International Perspective". *Australian Economic Review*, January – March 1995.
- Henderson, D. (1996), "Economic Reform: New Zealand in an International Perspective". New Zealand Business Roundtable, Wellington.
- Hobsbawm, E. (1987), *The Age of Empire*. Weidenfeld and Nicolson, London.
- Howard, M.C. and J.E. King (1975), *The Political Economy of Marx*. Longman, New York.
- IMF (1998), *World Economic Outlook*. May 1998. International Monetary Fund, Washington, D.C.
- ISNAR (1990), "Agricultural Research in Bangladesh : Major Areas of Concern". ISNAR, the Hague.
- ISNAR (1992), *Agricultural Research Management in Asia : Future Strategy*. ISNAR, the Hague.
- Jahan, K. (1996), "Nutrition Survey of Bangladesh 1995-96". Institute of Nutrition and Food Science, Dhaka University, Dhaka.
- James, C. (1992), *New Territory: The Transformation of New Zealand 1984-92*. Bridget Williams Books, Wellington.
- Johnson, J.G. (1971), "The Keynesian Revolution and the Monetarist Counter-Revolution". *American Economic Review*, Vol.61.
- Johnson, R.W.M. (1994), "The National Interest, Westminster and Public Choice". *Australian Journal of Agricultural Economics*. Vol.38, No. 1.
- Johnson, R.W. M. (1986), "Livestock and Feed Policy in New Zealand: 1975 to the Present". Discussion paper no. 8. Centre for Agricultural Policy Studies, Massey University, New Zealand.
- Johnston, W. and R. Sandrey (1990), "Land Markets and Rural Debt". In. Sandrey, R. and Reynolds, R. (eds.): *Farming Without Subsidies: New Zealand's Recent Experience*. Ministry of Agriculture and Fisheries, Wellington.
- Journeaux, P. (1998), "Agricultural Extension in New Zealand: Public vs. Private Good". MAF Policy, Hamilton.

- Keynes, J. M. (1973), *The General Theory of Employment, Interest and Money*. Cambridge University Press, MacMillan (1936).
- Krueger, A. O. (1993), *Political Economy of Policy Reform in Developing Countries*. The MIT Press, London.
- Kibria, S.M.S. (1996), "Budget Speech (1996-97)". Ministry of Finance, Dhaka.
- Kuznets, S. (1966), *Modern Economic Growth: Rate, Structure, and Spread*. Yale University Press, London.
- Kuznets, S. (1971), *Economic Growth of Nations: Total Output and Production Structure*. The Belknap Press of Harvard University Press. Cambridge, Massachusetts.
- Leipziger, D. M. and V. Thomas (1993), *The Lessons of East Asia: An Overview of Country Experience*. The World Bank, Washington, D.C.
- Lewis, A. (1984), "The State of Development Theory". *American Economic Review*, Vol.74, No. 1.
- Lewis, W. A. (1955), *The Theory of Economic Growth*. Allen & Unwin, London.
- MAF (1998), *Situation and Outlook for New Zealand Agriculture and Forestry (SONZAF)*. Ministry of Agriculture and Forestry, Wellington, New Zealand.
- MAF (1997, 1996, 1995), *Situation and Outlook for New Zealand Agriculture (SONZA)*. Ministry of Agriculture and Fisheries, Wellington.
- MAF. (1987), *New Zealand Agricultural Statistics 1987*. Several previous issues. Ministry of Agriculture and Fisheries, Wellington.
- Mahtab, F.U. (1992), "Report of the Evaluation Team for Extension and Research Project II". Bangladesh-Canada Agriculture Sector Team, Dhaka.
- Marx, K. (1970, 1967, 1971), *Capital*. Vols.1, 2 and 3. Foreign Language Publishing House, Moscow.
- McLean, I. (1978), "The Future for New Zealand Agriculture: Economic Strategies for the 1980s". New Zealand Planning Council, Wellington.
- McLean, I. (1987), *Public Choice: An Introduction*. Basil Blackwell, Oxford, UK.
- MOA (1996), *New Agricultural Extension Policy*. Ministry of Agriculture, Dhaka.
- MORST (1994), *The Science System in New Zealand*. Ministry of Research, Science and Technology, Wellington.
- New Zealand Dairy Board (1996), *Economic Survey of Factory Supply Dairy Farms 1995 – 1996*. Livestock Improvement Corporation Limited, Hamilton, New Zealand.
- New Zealand Institute of Economic Research (1997), *Quarterly Predictions: December 1997*. NZ Institute of Economic Research, Wellington.

- NZ Meat and Wool Board's Economic Service (1997a), *The New Zealand Sheep and Beef Farm Survey 1995-96*. New Zealand Meat and Wool Board's Economic Service, Wellington, New Zealand.
- NZ Meat and Wool Board's Economic Service (1997b), *Compendium of New Zealand Farm Production Statistics*. New Zealand Meat and Wool Board's Economic Service, Wellington.
- OECD (1998a), *OECD Economic Outlook*. June 1998. Organisation for Economic Cooperation and Development, France.
- OECD (1998b), *OECD Economic Surveys 1997-1998: New Zealand*. Organisation for Economic Cooperation and Development, France.
- OECD (1997a), *Main Economic Indicators*. Organisation for Economic Cooperation and Development, France.
- OECD (1997b), *Agricultural Statistics: Economic Accounts for Agriculture*. Organisation for Economic Cooperation, France.
- OECD (1997c), *Agricultural Policies in OECD Countries: Measurement of Support and Background Information 1997*. Organisation for Economic Cooperation and Development, France.
- OECD (1997d), *OECD Economic Outlook*. December 1997. Organization for Economic Cooperation and Development, France.
- OECD (1996), *OECD Economics at a Glance: Structural Indicators*. Organisation for Economic Cooperation and Development, France.
- Osmani, S.R. and A. Rahman (1981), "A Study on Income Distribution in Bangladesh". Bangladesh Institute of Development Studies, Dhaka.
- Panic, M. (1992), *European Monetary Union: Lessons from the Classical Gold Standard*. MacMillan, London.
- Podder, N. and S. Chatterjee (1998), "Sharing the National Cake in Post Reform New Zealand: Income Inequality Trends in Terms of Income Sources". A paper presented at the Annual Conference of the New Zealand Association of Economists.
- Rahman, S.H. (1992) "Structural Adjustment and Macroeconomic Performance in Bangladesh in the 1980s". *The Bangladesh Development Studies*. Vol.20, Nos. 2 & 3.
- Rayner, T. (1990), "The Seeds of Change". In. Sandrey, R. and Reynolds, R. (eds.): *Farming Without Subsidies: New Zealand's Recent Experience*. Ministry of Agriculture and Fisheries, Wellington.
- Reserve Bank of New Zealand (1996a), The Farming Downturn. *Reserve Bank Bulletin*. Vol.49, No. 9.
- Reserve Bank of New Zealand (1996b), "The Rural Debt Problem". *Reserve Bank Bulletin*. Vol. 49, No. 12.

- Reynolds, R. and S. SriRamaratnam (1990), "How Farmers Responded". In. Sandrey, R. and Reynolds, R. (eds.): *Farming Without Subsidies: New Zealand's Recent Experience*. Ministry of Agriculture and Fisheries, Wellington.
- Ricardo, D. (1819), *Principles of Political Economy*. Cambridge University Press.
- Ritchie, I. (1995), "From the Public to the Private Sector — The Agriculture New Zealand Story". *Agricultural Science*, July - August 1995 issue.
- Roche, M.M. et al. (1992), "Farmers Interest Groups and Agricultural Policy in New Zealand During 1980s. *Environment and Planning A: International Journal of Urban and Regional Research*, Vol. 24, No. 12.
- Rodrik, D. (1996), "Understanding Economic Policy Reform". *Journal of Economic Literature*, Vol. 34, March 1996.
- Ross, B. J. and R. L. Sheppard (1990), "New Zealand" In. Senderson, F. H. (eds.): *Agricultural Protectionism in the Industrial World*. National Centre for Food and Agricultural Policy Resources for Future, Washington, D.C.
- Ross, B. J. (1987), "Development of the Agricultural Industry". In. Wallace, L.T. and Lattimore, R., (eds.): *Rural New Zealand – What Next?* Discussion paper No. 109, Agribusiness and Economics Research Unit, Lincoln University, New Zealand.
- Rowley, C. K. (eds.) (1987), *Democracy and Public Choice*. Basil Blackwell, Oxford, UK.
- Sandrey, R. and R. Reynolds (eds.) (1990), *Farming Without Subsidies: New Zealand's Recent Experience*. MAF Policy, Wellington.
- Saul, S. B. (1969). *The Myth of the Great Depression, 1873-1895*. London.
- Saunders, C. (1994) "Agricultural Policy: An Update". Working paper 6, Centre for Rural Economy, Department of Agricultural Economics and Food Marketing, University of Newcastle Upon Tyne, United Kingdom.
- Saunders, C. (1998), "Agri-Environmental Policy and Market Development in the European Union and Their Potential Impact on New Zealand Trade". Discussion Paper, No. 54. Commerce Division, Lincoln University, New Zealand.
- Screpanti, E. and S. Zamagni (1993), *An Outline of the History of Economic Thought*. Oxford University Press.
- Sen, A. K. (1992), "Development: Which Way Now?" Wilber and Jameson (eds.): *The Political Economy of Development and Under Development*. Fifth Edition. McGraw-Hill, Inc.
- Silverstone, B. et al. (eds.) (1996), *A Study of Economic Reform: The Case of New Zealand*. Elsevier, Amsterdam.
- Smith, A. (1976), *An Inquiry into the Nature and Causes of the Wealth of Nations*. Clarendon Press, Oxford (1776).
- Sobhan, R. (1990), "The Development of the Private Sector in Bangladesh: A Review of the Evolution and Outcome of State Policy". BIDS, Dhaka.

- Soon, C. (1994), "Government and the Market in Economic Development". *Asian Development Review*, Vol. 12, No. 7.
- Statistics New Zealand (1998a), *Key Statistics*. April 1998 and other issues. Statistics New Zealand, Wellington.
- Statistics New Zealand (1998b), *New Zealand Official Yearbook 1998*. GP Publications, Wellington.
- Stephens, R. et al. (1995), "Measuring Poverty in New Zealand". *Social Policy Journal of New Zealand*, Issue 5.
- Storey, G. G. (1996), "The Implications of Government Reform in New Zealand for the Canadian Agri-Food Sector". Discussion Paper No. 143, Agribusiness and Economics Research Unit, Lincoln University, New Zealand.
- Stretton, H. and L. Orchard (1994), *Public Goods, Public Enterprise, Public Choice: Theoretical Foundations of the Contemporary Attack on Government*. St. Martin's Press, New York.
- The Economist (1995), "Degrees of Poverty". *The Economist*, August 19th – 25th.
- The Economist (1996), "Economic Freedom: Of Liberty and Prosperity". *The Economist*, January 13th – 19th.
- The Europa World Yearbook 1997*. Europa Publications Limited, London.
- The Treasury (1984), *Economic Management*. The Treasury, Wellington.
- The Treasury (1987), *Government Management: Brief to the Incoming Government*, Vol. 1. The Treasury, Wellington.
- Tyler, L. and R. Lattimore (1990), "Assistance to Agriculture". In: Sandrey, R. and Reynolds, R. (eds.): *Farming Without Subsidies: New Zealand's Recent Experience*. Ministry of Agriculture and Fisheries, Wellington.
- USAID (1989), "The Agricultural Sector in Bangladesh". US Agency for International Development, Dhaka.
- Valdes, A. (1994), "Agricultural Reforms in Chile and New Zealand". *Journal of Agricultural Economics*, Vol. 45, No. 2.
- Valuation New Zealand (1997), *Rural Property Sales Statistics*. December 1997. Valuation New Zealand, Wellington.
- Walker, A. and B. Bell (1994), "Aspects of New Zealand's Experience in Agricultural Reform Since 1984". MAF Policy Technical Paper 94/5. Ministry of Agriculture and Fisheries, Wellington.
- World Bank (1991), *World Development Report 1991*. Oxford University Press.

- World Bank (1992), "Bangladesh Food Policy Review: Adjusting to the Green Revolution". Vols.1 & 2. The World Bank, Washington, D.C.
- World Bank (1993), *The East Asian Miracle*. Oxford University Press.
- World Bank (1996), "Staff Appraisal Report : Bangladesh Agricultural Research Management Project". Agricultural and Natural Resources Division, South Asia Region, the World Bank.
- World Bank (1997a), *World Development Report 1997*. Oxford University Press.
- World Bank (1997b), "Bangladesh: Annual Economic Update 1997". South Asia Region.
- World Bank (1997c), "Report of the Supervision Mission on ASSP". World Bank, Dhaka.
- World Bank and Asian Development Bank (1998), "Bangladesh: Economic Trends and the Policy Agenda". Dhaka.
- World Trade Organisation (1994), "The Results of the Uruguay Round of Multinational Trade Negotiations: The Legal Texts". General Agreement on Tariffs and Trade (GATT) Secretariat, Geneva.

APPENDIX A

Table A-1: Growth rate of GDP and agricultural GDP at constant prices and sectoral share in GDP, Bangladesh

Year*	Growth rate (%) of GDP						Sectoral share (%) in GDP			
	Total GDP	Agril. GDP	Crops	Livestock	Fisheries	Forestry	Agriculture	Industry	Construction	Service
1973-1974	9.6	6.4	9.1	1.7	0.3	-9	49.76	9	4.56	36.68
1974-1975	-4.1	-4.6	-5.5	1.6	0.4	-7.8	48.3	11.7	3.3	36.7
1975-1976	5.7	8.4	10.6	1.7	-0.3	3.2	48.1	10.9	2.8	38.2
1976-1977	2.7	-3.7	-4.5	1.6	0	-5	49.3	10.2	2.5	38
1977-1978	7.1	7.8	8	4.5	1.3	23.9	46.3	11.1	3.4	39.2
1978-1979	4.8	-0.7	1.1	2.2	-26.5	13.8	46.6	10.5	3.6	39.3
1979-1980	0.8	0.2	0.1	2.3	1.4	-3.3	44.2	11.1	5.2	39.5
1980-1981	3.4	4.2	4.9	2.3	0.4	1.5	43.9	11.2	4.1	40.8
1981-1982	1.2	0.2	-1	2.6	5.7	6.2	44.2	10.5	4.7	40.6
1982-1983	4.9	4.2	4.2	2.5	5.3	6.1	43.8	10.4	4.8	41
1983-1984	5.4	3.6	4.8	-9.9	1.8	7.2	43.5	10.1	4.5	41.9
1984-1985	3	0.7	0.8	3.3	2.5	-5.2	42.7	10.3	5.1	41.9
1985-1986	4.3	3.3	3.4	2.9	1.6	4.2	41.8	9.8	5.5	42.9
1986-1987	4.2	0.4	0	5.5	2.2	-2.1	41.3	9.7	5.4	43.6
1987-1988	2.9	-0.8	-1.8	0.9	1.1	7.8	39.9	10.1	5.5	44.5
1988-1989	2.5	-1.1	-1.9	3.3	0.4	2.3	38.4	9.8	6	45.8
1989-1990	6.6	7.7	9.2	3.4	2.1	2.3	37.1	9.8	6.2	46.9
1990-1991	3.4	1.6	1.2	2.2	5.8	2.1	38.3	9.9	6	45.8
1991-1992	4.2	2.2	1.7	3.6	6.5	2.4	37.6	9.8	6.1	46.5
1992-1993	4.5	1.8	0.8	6.2	6.6	3	36.9	10.1	6	47
1993-1994	4.2	0.3	-1.6	8.5	8.7	4	35.9	10.5	6.1	47.5
1994-1995	4.4	-1	-3.8	8.3	9.7	4.5	34.6	10.9	6.2	48.3
1995-1996	5.3	3.7	2.8	8	5.9	4.3	32.8	11.3	6.4	49.5
1996-1997	5.7	6	5.6	8	8.9	4.3	32.2	11.3	6.3	50.2
							32.4	11.1	6.1	50.4

* Year ended 30 June.

Source: BBS (1993), GOB (1997) and author's calculation

Table A-2: GDP at constant (1984-85) prices and per capita GDP, Bangladesh

Year*	Taka 1/ in crore (1 crore = 10 million)						Population (crore)	Per capita GDP (Taka)
	Total GDP	Agril. GDP	Crop	Livestock	Fisheries	Forestry		
1972-73	26456	13164	9933	1009	1380	842	7.43	3561
1973-74	28993	14011	10835	1026	1384	766	7.64	3795
1974-75	27808	13372	10233	1042	1390	707	7.80	3565
1975-76	29382	14493	11320	1059	1385	729	7.99	3677
1976-77	30167	13963	10808	1077	1386	692	7.18	3688
1977-78	32301	15057	11671	1125	1403	858	8.37	3859
1978-79	33852	14957	11798	1151	1032	976	8.56	3955
1979-80	34130	14981	11813	1177	1047	944	8.77	3892
1980-81	35288	15607	12394	1205	1051	957	8.99	3925
1981-82	35722	15631	12267	1236	1111	1017	9.16	3900
1982-83	37470	16293	12778	1266	1170	1079	9.35	4007
1983-84	39503	16881	13392	1141	1191	1157	9.55	4136
1984-85	40693	16997	13503	1178	1221	1095	9.75	4174
1985-86	42459	17555	13960	1213	1241	1141	9.94	4272
1986-87	44234	17625	13960	1280	1268	1117	10.15	4358
1987-88	45513	17490	13712	1292	1282	1204	10.34	4402
1988-89	46661	17304	13451	1335	1287	1231	10.55	4423
1989-90	49753	19035	15083	1380	1313	1259	10.75	4628
1990-91	51444	19342	15257	1410	1390	1285	10.96	4694
1991-92	53619	19766	15510	1461	1480	1315	11.14	4813
1992-93	56023	20123	15639	1552	1578	1354	11.55	4850
1993-94	58384	20192	15385	1684	1715	1408	11.77	4960
1994-95	60979	19982	14807	1824	1880	1471	11.99	5086
1995-96	64244	20713	15217	1971	1991	1534	12.21	5262
1996-97	67875	21965	16070	2130	2170	1598	12.43	5461

* Year ended 30 June.

1/ Bangladesh Taka 48.8 = US \$1

Source: BBS (1993), GOB (1997) and author's calculation.

Table A-3: Share of agriculture to public sector development expenditure, Bangladesh

Year	Share of agriculture to public expenditure (%)
1973-78 (FFYP)	31.2
1978-80 (TYP)	28.9
1980-85 (SFYP)	29.9
1985-90 (TFYP)	21.0
1990-95 (FFYP)	19.6
1995-96 ^a (PH)	20.03
1996-97 ^a (PH)	23.29
1997-2002 ^b (FFYP)	23.00

^a Year of plan holiday.

^b Draft Fifth Five Year Plan (FFYP).

Table A.4: Share (%) of different crops in total cropped acreage over time, Bangladesh

Crops	1972-73	1977-78	1989-90	1996-97
Rice	78.76	79.44	75.66	74.70
Wheat	0.98	1.50	4.28	5.20
Minor grains	0.78	0.71	0.63	0.66
<i>Total Grains</i>	<i>80.54</i>	<i>81.65</i>	<i>80.57</i>	<i>80.56</i>
Pulses	2.57	2.68	5.32	5.06
Oil Seeds	2.14	2.25	3.33	3.31
Spices	1.25	1.24	1.08	1.05
Vegetables	0.85	0.94	1.17	1.44
Tubers	1.17	1.28	1.22	1.30
Sugarcane	1.05	1.22	1.35	1.30
Jute	7.34	5.79	3.91	3.72

Source: Bangladesh Bureau of Statistics (BBS) and author's calculation.

Table A-5: Trend growth rates* of area, production and yield rate of food-grain crops, Bangladesh

Crops	1972/73-1996/97			1972/73-1977/78			1978/79-1989/90			1990/91-1996/97		
	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
Rice (Local)	-2.80	1.07	-1.73	0.32	3.75	4.08	-2.57	1.23	-1.34	-3.47	-0.71	-4.18
Rice (HYV)	6.77	0.07	6.84	4.16	-0.74	3.42	7.17	0.37	7.54	2.32	-0.08	2.24
<i>Rice (Total)</i>	<i>0.09</i>	<i>2.27</i>	<i>2.36</i>	<i>0.80</i>	<i>3.00</i>	<i>3.80</i>	<i>0.15</i>	<i>2.44</i>	<i>2.59</i>	<i>-0.62</i>	<i>0.69</i>	<i>0.07</i>
Wheat	7.31	2.61	9.92	9.19	16.33	25.52	4.55	-0.74	3.81	3.22	2.75	5.97
Minor grains	0.80	0.37	1.17	-1.95	-1.48	-3.43	4.44	0.16	4.60	-3.49	0.40	-3.09

*Growth rates have been computed by fitting semi-logarithmic trend lines.

Source: BBS and author's calculations.

Table A-6: Domestic production, per capita availability and import of food-grains over time, Bangladesh

Year*	Domestic production (Lakh ¹ /metric tons)			Population (Lakh)	Per capita availability (gram)		Total import (Lakh metric tons)
	Rice	Wheat	Total grains		Total availability	Available for consumption ^{2/}	
1972-73	99.3	0.9	100.2	743	369.5	332.5	2825
1973-74	117.21	1.92	119.13	764	427.2	384.5	1669
1974-75	111.08	1.15	112.23	780	394.2	354.8	2293
1975-76	125.6	2.15	127.75	799	438.0	394.2	1470
1976-77	115.67	2.55	118.22	818	396.0	356.4	810
1977-78	127.63	3.43	131.06	837	429.0	386.1	1645
1978-79	126.46	4.86	131.32	856	420.3	378.3	1155
1979-80	125.39	8.1	133.49	877	417.0	375.3	2782
1980-81	138.8	10.92	149.72	899	456.3	410.6	1076
1981-82	136.29	9.67	145.96	916	436.6	392.9	1255
1982-83	142.15	10.95	153.1	935	448.6	403.8	1844
1983-84	145.09	12.11	157.2	955	451.0	405.9	2056
1984-85	146.23	14.64	160.87	975	452.0	406.8	2593
1985-86	150.38	10.42	160.8	994	443.2	398.9	1200
1986-87	154.06	10.91	164.97	1015	445.3	400.8	1767
1987-88	154.13	10.48	164.61	1034	436.2	392.5	2917
1988-89	155.44	10.21	165.65	1055	430.2	387.2	2136
1989-90	178.56	8.9	187.46	1075	477.8	430.0	1533
1990-91	178.52	10.04	188.56	1096	471.4	424.2	1577
1991-92	182.52	10.65	193.17	1114	475.1	427.6	1564
1992-93	183.41	11.76	195.17	1155	463.0	416.7	1183
1993-94	180.41	11.31	191.72	1177	446.3	401.6	966
1994-95	168.33	12.45	180.78	1199	413.1	371.8	2586
1995-96	176.87	13.69	190.56	1221	427.6	384.8	2427
1996-97	188.83	14.54	203.37	1243	448.3	403.4	1256

* Year ended 30 June.

1/ 10 Lakh = 1 Million.

2/ After deduction of 10% from domestic production as seed, feed and wastage.

Table A-7: Average yield of food-grain crops per acre (kilogram/acre) in Bangladesh

Crop	1972/73 — 1996/97	1972/73 — 1977/1978	1978/79 — 1989/90	1990/91 — 1996/97
Total Rice	588.34	473.64	568.99	719.82
HYV Rice	941.59	962.07	917.75	964.91
Local Rice	438.53	392.49	439.18	476.88
Aus (Total)	415.76	366.66	414.04	460.77
Aus (HYV)	827.80	997.86	790.50	746.00
Aus (Local)	344.04	312.35	344.86	369.81
Aman (Total)	554.71	469.88	541.93	649.31
T. Aman (Total)	598.84	517.18	584.01	694.27
T. Aman (HYV)	839.71	866.28	808.25	870.87
T. Aman (LV)	506.89	456.89	509.94	544.52
B. Aman	392.29	363.10	399.74	404.55
Boro (Total)	942.02	817.39	947.03	1040.26
Boro (HYV)	1070.77	1058.00	1065.98	1089.94
Boro (Local)	562.64	520.38	572.39	582.14
Wheat	690.36	456.97	765.72	761.23
Minor Cereals	291.19	273.00	297.22	296.46

HYV means high yielding variety.

LV means local variety.

Source: Bangladesh Bureau of Statistics (BBS).

Table A-8: Financial profitability of different types of rice produced in Bangladesh

Year	Financial return at current prices (Taka)			Price index	Real financial return (Taka) ^{1/}		
	Aman (LV)	Aman (HYV)	Boro (HYV)		Aman (LV)	Aman (HYV)	Boro (HYV)
1984-85	5733	9856	7978	388	1478	2540	2056
1985-86	4474	7847	9186	429	1043	1829	2141
1986-87	5890	11415	12030	483	1219	2363	2491
1987-88	5286	10831	9095	535	988	2024	1700
1988-89	4788	9953	11376	566	846	1758	2010
1989-90	5452	10248	10642	606	900	1691	1756
1990-91	5913	12486	12968	648	913	1927	2001
1991-92	6421	13447	13164	684	939	1966	1925
1992-93	2846	7344	4238	676	421	1086	627
1993-94	2723	7771	6262	679	401	1144	922
1994-95	5472	13109	10786	732	748	1791	1473

1/ Deflated by using consumers price index for food (1973 - 74 = 100).

Source: CPD (1997) and authors calculation.

Table A-9: Values of import and export of selected non-crop agricultural products, Bangladesh

Year	Taka in crore at current prices			GDP deflator	Taka in crore at constant prices ^{1/}		
	Milk import	Leather export	Fish export		Milk import	Leather export	Fish export
1985-86	152	180.25	356.25	109.81	138.42	164.15	324.42
1986-87	211	409.7	424.05	121.9	173.09	336.10	347.87
1987-88	228	455.2	454.12	131.2	173.78	346.95	346.13
1988-89	330	434.5	471.89	141.36	233.45	307.37	333.82
1989-90	291	584.24	478.77	148.25	196.29	394.09	322.95
1990-91	277	483.54	526.62	162.19	170.79	298.13	324.69
1991-92	266	565.83	524.35	169	157.40	334.81	310.27
1992-93	287	616.28	700.29	169.2	169.62	364.23	413.88
1993-94	179	766.7	920.96	177.15	101.04	432.80	519.88
1994-95	213	903.71	1306.94	191.91	110.99	470.90	681.02
1995-96	242	986.54	1340.95	202.6	119.45	486.94	661.87
1996-97	290	946.61	1457.61	206.6	140.37	458.18	705.52

1/ Deflated by using Bangladesh GDP deflator (1984 - 85 = 100)

Source: Export Promotion Bureau, Office of the Chief Controller of Export and Import, and author's calculation.

Table A-10: Estimated trade balance (Million US Dollar) of the agricultural sector, Bangladesh

Year*	Current US \$ (million)					Deflator ^{1/}	Real US \$ (million)				As % of total	
	Agril. exports	Agril. imports	Agril. trade balance	Total export	Total import		Agril. export	Agril. import	Total export	Total import	Agril. export	Agril. import
1972-1973	344	461	-117	348	719	35.3	975	1306	986	2037	98.85	64.12
1973-1974	365	474	-109	372	919	38.5	948	1231	966	2387	98.12	51.58
1974-1975	373	749	-376	383	1386	42.1	886	1779	910	3292	97.39	54.04
1975-1976	372	557	-185	380	1263	44.6	834	1249	852	2832	97.89	44.10
1976-1977	397	295	102	417	856	47.4	838	622	880	1806	95.20	34.46
1977-1978	464	447	17	494	1272	50.9	912	878	971	2499	93.93	35.14
1978-1979	595	495	100	619	1450	55.2	1078	897	1121	2627	96.12	34.14
1979-1980	702	923	-221	749	1971	60.3	1164	1531	1242	3269	93.72	46.83
1980-1981	632	588	383	710	2293	66	958	891	1076	3474	89.01	25.64
1981-1982	565	571	-6	626	1930	70.2	805	813	892	2749	90.26	29.59
1982-1983	621	630	-9	687	1902	73.2	848	861	939	2598	90.39	33.12
1983-1984	723	735	-12	811	2353	75.9	953	968	1069	3100	89.15	31.24
1984-1985	778	884	-106	936	2647	78.5	991	1126	1192	3372	83.12	33.40
1985-1986	653	566	87	819	2381	80.6	810	702	1016	2954	79.73	23.77
1986-1987	735	550	185	1074	2621	83.1	884	662	1292	3154	68.44	20.98
1987-1988	735	850	-115	1231	2986	86.1	854	987	1430	3468	59.71	28.47
1988-1989	720	796	-76	1292	3375	89.7	803	887	1440	3763	55.73	23.59
1989-1990	833	762	71	1524	3759	93.6	890	814	1628	4016	54.66	20.27
1990-1991	731	796	-65	1718	3472	97.3	751	818	1766	3568	42.55	22.93
1991-1992	713	765	-52	1994	3516	100	713	765	1994	3516	35.76	21.76
1992-1993	754	765	-11	2383	4071	102.6	735	746	2323	3968	31.64	18.79
1993-1994	799	691	108	2434	4191	105.5	757	655	2307	3973	32.83	16.49
1994-1995	973	1253	-280	3473	5834	107.8	903	1162	3222	5412	28.02	21.48
1995-1996	1017	1432	-415	3882	6881	110.2	923	1299	3523	6244	26.20	20.81
1996-1997	979.2	1016	-36.8	4418	7120	112.4	871	904	3931	6335	22.16	14.27

* Year ended 30 June.

^{1/} US GDP deflator (1992=100).

Source: Export Promotion Bureau and Office of the Chief Controller of Export and Import.

APPENDIX B

Table B-1: Some selected macro-economic indicators of New Zealand

Year	Real GDP Growth rate (%)		Savings rate (% of GDP)		Unemployment rate (%)	
	New Zealand	OECD average	New Zealand	OECD average	New Zealand	OECD average
1960-69	3.4	5.2	21.1	24.3	0.2	0.9
1970-80	1.6	3.6	21.7	24.8	0.7	1
1981	4.7	2	20.4	22.4	3.3	7.2
1982	3.3	0.1	19.4	21	3.6	8.5
1983	2.5	2.8	20.4	20.4	5.2	9.5
1984	8.5	4.7	19.4	21.6	4.5	10.1
1985	1.6	3.5	17.1	21.2	3.5	10.3
1986	0.7	3	18.9	20.8	4	10.4
1987	0.7	3.4	17.9	21.2	4.1	10.1
1988	2.2	4.4	17.9	22	5.6	9.4
1989	-0.4	3.6	15.6	21.7	7.1	8.4
1990	0.3	2.8	14.4	20.9	7.8	7.9
1991	-2.3	1	13.7	20.7	10.3	8.4
1992	0.6	1.9	16.4	19.4	10.3	9.6
1993	4.8	1.2	19.2	19	9.5	11.1
1994	6.1	2.9	18.6	19.5	8.1	11.5
1995	3.3	2.2	17.5	20.3	6.3	11.2
1996	2.7	2.8	16	na	6.1	11.4
1997	2.8	3.1	na	na	6.7	11.2

Source: OECD (1996), OECD (1998a), Dalziel and Lattimore (1996) and author's calculation.

Table B-2: Rate of investment in New Zealand

Year	Investment rate (% of GDP)	
	New Zealand	OECD Average
1960-69	21.7	23.6
1970-79	24.4	24.4
1980-89	22.8	21.9
1990-94	17.9	20.5
1995	21.4	20.5
1996	22.2	21.1
1997	22.4	21.2

Source: OECD (1996) and OECD (1998a, 1998b).

Table B-3: Inflation rates 1/ and the foreign exchange reserve level 2/ in New Zealand

Year	Inflation rate (%)		Foreign exchange reserve		Total imports
	New Zealand	OECD Average	(NZ \$ Million)	Months of Imports	(NZ \$ million) 3/
1961-64	2.4	na			
1965-69	4.3	3.8			
1970-78	12	9.5			
1979	13.8	11.1	580.9	1.8	3840.5
1980	17.1	15	375.4	0.9	5172.6
1981	15.4	11.5	783.3	1.6	6023.6
1982	16.1	10	933.5	1.5	7600.4
1983	7.4	9.4	1189.7	1.9	7595.8
1984	6.1	8.3	3683.7	4.9	9020.1
1985	15.4	7.3	3241	3.1	12472.6
1986	13.2	6.5	7183.2	7.5	11467
1987	15.7	8.9	4979.3	5.1	11800.2
1988	6.4	9.2	4494.4	4.6	11606.5
1989	5.7	6.5	4959.6	4.8	12491.4
1990	6.1	7.2	6911.6	5.3	15770.5
1991	2.6	6.5	5307.4	4.2	15325.1
1992	1	5.2	5674.6	4.4	15483.4
1993	1.3	4.5	5717.8	4.0	17332.8
1994	1.8	5.1	5772.1	3.8	18468.9
1995	3.8	5.9	6752.1	3.8	21260.9
1996	2.3	5.4	8432.2	4.7	21352.5
1997	1.2	4.7	6972.3	3.9	21323.6

na Means not available.

1/ As measured by consumers price index.

2/ On 31 September (30 December in 1997).

3/ CIF value.

Source OECD (1996; 1998a) and Reserve Bank of New Zealand (various issues of the *Reserve Bank Bulletin*), Department of Statistics (1984, 1987) and Statistics New Zealand (*Key Statistics*, various issues).

Table B-4: General government financial balance of New Zealand (% of GDP)

Year	General government total outlays		General government current receipts		General government financial balance	
	New Zealand	OECD average	New Zealand	OECD average	New Zealand	OECD average
1986	57.2	38.8	50.4	35.4	-6.8	-3.4
1987	53.3	38.4	50.8	36	-2.5	-2.4
1988	54.5	37.7	49.3	35.9	-5.1	-1.8
1989	55.3	37.3	51.1	36.1	-4.2	-1.2
1990	57.5	38.4	52.1	36.3	-5.4	-2.1
1991	54.6	39.3	50.4	36.5	-4.1	-2.7
1992	54.3	40.3	50.7	36.6	-3.6	-3.8
1993	50.8	41.3	49.6	36.9	-1.2	-4.3
1994	47.3	40.5	50.2	36.9	3	-3.6
1995	46.8	40.4	49.9	37	3.1	-3.3
1996	46.1	40	49.1	37.4	3	-2.6
1997	45.9	39.1	47.6	37.8	1.6	-1.3

Source: OECD (1998a).

Table B-5: Trade and current account balance of New Zealand

Year	Trade balance (\$ billion)		Current account balance (% of GDP)	
	New Zealand	OECD average	New Zealand	OECD average
1980	0.3	-86.7	-4.4	-1.1
1981	0.2	-44	-4.9	-0.7
1982	-0.3	-20.4	-7.3	-0.5
1983	0.3	-15.2	-4.4	-0.3
1984	-0.5	-41.5	-8.9	-0.6
1985	0	-41.7	-7.2	-0.7
1986	0.1	-7.1	-6.4	-0.3
1987	0.6	-20.8	-5.1	-0.4
1988	2.1	0.7	-1.1	-0.3
1989	1	-32	-3.8	-0.5
1990	0.9	-43.4	-2.8	-0.7
1991	2.1	-19.1	-2.2	-0.3
1992	1.6	12.8	-2.7	-0.4
1993	1.7	68.5	-1.2	0
1994	1.4	61.3	-2.4	-0.1
1995	0.9	105.2	-3.7	0.1
1996	0.5	66.4	-4	0
1997	-0.1	67	-7.3	0.1

Source: OECD (1998a).

Table B-6: Terms of trade index of New Zealand

Year	Export price index 1/	Import price index 1/	Terms of trade index 2/
1985	866	1046	942
1986	809	1002	919
1987	864	999	985
1988	888	941	1074
1989	1000	1000	1139
1990	1064	1034	1172
1991	1004	1044	1095
1992	1031	1086	1081
1993	1115	1129	1125
1994	1067	1087	1118
1995	1054	1076	1115
1996	1031	1069	1098
1997	979	1026	1087

1/ Year ended June 1989 = 1000

2/ The average of the 10 years ended June 1989 = 1000

Source: Statistics New Zealand (1998a).

Table B-7: Overseas and domestic public debt, New Zealand

Year*	Debt NZ \$ (million)		Debt as % of GDP	
	Overseas 1/	Domestic	Overseas	Domestic
1984	8175	13670	23.43	39.17
1985	12366	16237	31.28	41.08
1986	14427	17026	31.75	37.47
1987	20779	20674	37.72	37.53
1988	18357	21274	29.67	34.39
1989	16682	21760	25.12	32.77
1990	20104	19990	28.14	27.98
1991	20198	20692	27.44	28.11
1992	20036	24060	27.31	32.79
1993	23523	25834	30.52	33.52
1994	26289	27309	32.86	34.14
1995	23418	29197	27.05	33.72
1996	21898	29376	23.87	32.02
1997	20649	28708	21.55	29.96

* Year ended March.

1/ Exclude corporations.

Source: *Reserve Bank Bulletin* (different issues) and author's calculation.

Table B-8: Index of volume of agricultural production, New Zealand

Year*	Wool	Sheep	Cattle	Pigs	Dairy products	Poultry products	Crops and seeds	Fruits and oilseeds	Other horticultural products	Other agricultural products	All farm products
1978	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1979	1032	982	966	896	1082	1011	1019	1163	1213	1186	1025
1980	1161	1162	980	878	1136	1049	980	1236	1585	1601	1115
1981	1247	1178	958	865	1092	1120	961	1339	1782	1847	1132
1982	1187	1173	1000	878	1088	1144	1003	1638	1901	2070	1147
1983	1183	1270	1026	888	1113	1251	1094	1532	1852	2543	1181
1984	1176	1207	872	966	1230	1211	1266	1892	2230	2996	1218
1985	1254	1334	1003	1050	1259	1356	1306	2249	2230	3551	1307

* Year ended June.

Source: Reserve Bank of New Zealand (1966a).

Table B-9: Volume of major agricultural products, New Zealand

Year	Wool (000 tonnes) 30 June year	Milkfat (000 tonnes) 31 May year	Meat (000 tonnes) 30 September year
1972	323	258	1025
1973	309	247	1037
1974	285	228	937
1975	294	244	1030
1976	312	268	1174
1977	303	275	1094
1978	311	251	1101
1979	321	247	1061
1980	357	291	1090
1981	381	282	1157
1982	363	282	1179
1983	371	290	1232
1984	364	324	1144
1985	373	332	1266
1986	358	349	1146
1987	349	301	1220
1988	346	333	1230
1989	341	311	1211
1990	309	330	1051
1991	305	342	1141
1992	296	363	1178
1993	256	372	1144
1994	284	423	1146
1995	289	421	1250
1996	269	452	1218

Source: MAF (1987) and Gouin *et al.* (1994)

Table B-10: Agricultural output in current and constant prices, New Zealand

Year	Current \$ (million)	CPI*	Constant \$ (million)
1972	1230	123	10000
1973	1565	130	12038
1974	2038	144	14153
1975	1588	163	9742
1976	2070	191	10838
1977	2771	217	12770
1978	2765	248	11149
1979	3180	274	11606
1980	4354	324	13438
1981	4549	374	12163
1982	5000	433	11547
1983	5092	488	10434
1984	5986	505	11853
1985	7264	572	12699
1986	6882	647	10637
1987	6822	765	8918
1988	7365	834	8831
1989	8132	867	9379
1990	9284	928	10004
1991	8488	970	8751
1992	9297	978	9506
1993	10029	987	10161
1994	10785	1000	10785
1995	10338	1040	9940
1996	10428	1063	9810
1997	10618	1082	9813

* Base: December quarter 1993 =1000.
Source: MAF (1998, 1997, 1987), Statistics New Zealand (1998b),
Gouin *et al.* (1994) and author's calculation.

Table B-11: Agricultural export as a percentage of total export, New Zealand

Year	Export (NZ \$ million)		Real export (NZ \$ million) 1/		Agriculture as % of total
	Total	Agricultural	Total	Agricultural	
1972	1375	1163	11178.9	9455.3	84.58
1973	1792	1518	13784.6	11676.9	84.71
1974	1787	1427	12409.7	9909.7	79.85
1975	1622	1267	9950.9	7773.0	78.11
1976	2387	1901	12497.4	9952.9	79.64
1977	3229	2505	14880.2	11543.8	77.58
1978	3314	2536	13362.9	10225.8	76.52
1979	4067	3034	14843.1	11073.0	74.60
1980	5152	3663	15901.2	11305.6	71.10
1981	6065	4392	16216.6	11743.3	72.42
1982	6940	4660	16027.7	10762.1	67.15
1983	7935	5203	16260.2	10661.9	65.57
1984	8624	5306	17077.2	10506.9	61.53
1985	11316	6940	19783.2	12132.9	61.33
1986	10572	6251	16340.0	9661.5	59.13
1987	12107	7580	15826.1	9908.5	62.61
1988	12452	7365	14930.5	8830.9	59.15
1989	14905	8737	17191.5	10077.3	58.62
1990	15164	8515	16340.5	9175.6	56.15
1991	15768	8489	16255.7	8751.5	53.84
1992	17156	9713	17541.9	9931.5	56.62
1993	18241	9998	18481.3	10129.7	54.81
1994	19166	10344	19166.0	10344.0	53.97
1995	20065	10493	19293.3	10089.4	52.30
1996	19959	10925	18776.1	10277.5	54.74
1997	20405	10905	18858.6	10078.6	53.44

1/ Deflated by CPI (December quarter 1993 =1000).

Source: MAF (1998), Gouin *et al.* (1994) and author's calculation.

Table B-12: Real agricultural and total GDP of New Zealand (NZ \$ million)

Year	Total GDP	Agril. GDP	Real total GDP	Real Agril. GDP	Contribution of agriculture to GDP (%)
1972	6880	793	55935	6447	11.53
1973	7900	1062	60769	8169	13.44
1974	9199	1129	63882	7840	12.27
1975	10131	852	62153	5227	8.41
1976	11744	1116	61487	5843	9.50
1977	14201	1483	65442	6834	10.44
1978	14997	1339	50472	5399	8.93
1979	16972	1415	61942	5164	8.34
1980	19797	2122	61102	6549	10.72
1981	23089	2136	61735	5711	9.25
1982	27991	2220	64644	5127	7.93
1983	31536	2101	64623	4305	6.66
1984	34896	2430	69101	4812	6.96
1985	39528	3040	69105	5315	7.69
1986	45345	2956	70224	4569	6.51
1987	55088	3046	72010	3982	5.53
1988	61867	3515	74181	4215	5.68
1989	66403	3877	76589	4472	5.84
1990	71406	4596	76946	4953	6.44
1991	72962	3909	75219	4030	5.36
1992	73378	4510	75029	4611	6.15
1993	77067	4345	78082	4402	5.64
1994	79999	4956	79999	4956	6.20
1995	86577	4850	83247	4663	5.60
1996	91739	5310	86302	4995	5.79
1997	95816	5398	88555	4989	5.63

1/ Deflated by CPI (December quarter 1993 =1000).

Source: Stastics New Zealand (1998b), MAF (1998), Gouin *et al.* (1994) and author's calculation.

Table B-13: Net income by type of farm at current and constant NZ Dollar

Year*	Sheep and beef farm income		Dairy farm income	
	(Current \$)	(Constant \$) 1/	(Current \$)	(Constant \$)1/
1975	5368	32932.5	8645	53036.8
1976	13625	71335.1	9596	50240.8
1977	21371	98483.9	10493	48354.8
1978	13888	56000.0	10155	40947.6
1979	19495	71149.6	13341	48689.8
1980	24771	76453.7	13742	42413.6
1981	21697	58013.4	15188	40609.6
1982	21401	49424.9	18190	42009.2
1983	23395	47940.6	20808	42639.3
1984	18491	36615.8	21714	42998.0
1985	34208	59804.2	28047	49033.2
1986	15338	23706.3	23756	36717.2
1987	25857	33800.0	30022	39244.4
1988	28487	34157.1	39920	47865.7
1989	28257	32591.7	52812	60913.5
1990	37285	40177.8	64410	69407.3
1991	28805	29695.9	33039	34060.8
1992	31065	31763.8	50657	51796.5
1993	36216	36693.0	57829	58590.7
1994	48702	48702.0	59315	59315.0
1995	36972	35550.0	64021	61558.7
1996	26084	24538.1	58856	55367.8

* Year ended June.

1/ Deflated by CPI (December quarter 1993 =1000).

Source: NZ Meat & Wool Board's Economic Service (1997a), New Zealand Dairy Board (1996), Gouin *et al.* (1994), Ross and Sheppard (1990) and author's calculation.

Table B-14: Rural land value^{1/}, New Zealand

Year	Land value (\$ per hectare)	
	(Current \$)	(Constant \$) ^{2/}
1980	1395	4305.6
1981	2008	5369.0
1982	2941	6792.1
1983	3128	6409.8
1984	2957	5855.4
1985	3085	5393.4
1986	2793	4316.8
1987	2462	3218.3
1988	2390	2865.7
1989	2372	2735.9
1990	2548	2745.7
1991	2547	2625.8
1992	2901	2966.3
1993	3215	3257.3
1994	4389	4389.0
1995	4836	4650.0
1996	4816	4530.6
1997	4314	3987.1

1/ Sold on the freehold open market.

2/ Deflated by CPI (December quarter 1993 =1000).

Source: Valuation New Zealand (1997) and author's calculation.

Table B-15: Assets and liabilities of dairy farms, New Zealand

Year	Total assets		Total liabilities		Liabilities as % of assets
	(Current \$)	(Constant \$) ^{1/}	(Current \$)	(Constant \$) ^{1/}	
1989	575648	663953.9	190314	219508.7	33
1990	672468	724642.2	192151	207059.3	29
1991	770563	794394.8	226311	233310.3	29
1992	731522	747977.5	235052	240339.5	32
1993	916449	928519.8	270229	273788.2	29
1994	1103968	1103968.0	282647	282647.0	26
1995	1361776	1309400.0	337510	324528.8	25
1996	1516846	1426948.3	365592	343924.7	24

1/ Deflated by CPI (December quarter 1993 =1000).

Source: New Zealand Dairy Board (1996) and author's calculation.

APPENDIX C

WORK SCHEDULE OF AN EXTENSION ADVISOR

- 8.00 Office messages and admin.
- 8.30 Grower visit to establish and mark trees for a chemical thinning trial.
- 10.00 Property visit to view property for possible purchase. Client is looking to purchase property and has requested an independent evaluation.
- 12.30 Grower visit to establish and mark trees for a chemical thinning trial.
- 1.30 Office summarise property visit and enter information into a spreadsheet to develop model budgets.
- 3.00 Grower meeting. Meeting with a group of growers discussing an up coming field day and data on fruit calcium I will be presenting.
- 4.30 Grower meeting to discuss chemical thinning trials for coming season and ways of funding these trials.
- 6.00 Office to check messages. Reply to grower enquiries regarding irrigation scheduling, and chemical thinning.
- 7.00 Home

Monday 12 October 1998

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